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ORIGINAL ARTICLES.

INFLAMMATORY DISEASE OF THE UTERUS AND APPENDAGES UNDER VARIOUS MODES OF TREATMENT.

JOSEPH PRICK, M.D., PHILADELPHIA.

The methods of treatment of pelvic disease may be broadly classed as those that are proven and those that are experimental. Proven methods have gained their position from the work of earnest, painstaking surgeons who step by step have arrived at conclusions which to them are as irrefutable as any of the laws of physics or mechanics, and from which they are not induced to vary save by the exigencies of a given situation, and then only to graft a new step or unusual procedure on account of some complexity which the case offers. In opposition to these we have the experimental surgeon, who seeks new laurels in the line of new microbes and new ways of killing them after he has discovered them. After this death-dealing agent has been discovered, and with it some new chemical antidote, his next ambition is to invent some new automatic instrument by which all surgery becomes self-regulating. The abdominal wall is stitched up as if by a Wheeler & Wilson, and a new table fitted with a crank and a watch-tower, with red lights and electrical attachment, signals danger, but don't tell them to stop. Of all this what is to come? With the minor steps condemned and the question of the legitimacy of the simple removal of the appendages even questioned, the advance guards of automatic surgery would have us leap the gulf and add to the original operation something to simplify it. What delicate irony! What sophisticated reasoning!

Surely the refined metaphysics of the scholastics were not more disconcerting than this—and not less rational.

We must start out on the broad ground that simplicity of work must give us perfection of results; that the less we primarily deal with the less is the restoration to be made, assuming always that we deal always with diseased structures and do all that is necessary for their removal or ultimate recovery. All methods that do not thus aim at completeness must fall under the ban of criticism.

What is the rule with reference to disease anywhere of a suppurative character? The suppuration must either be encouraged to evacuate itself or assisted to an egress. So it is in the liver, the kidney, the brain. So it must be in the pelvis. Any method that loses sight of this principle must also fail in its ultimate efficiency. Herein is the failure of most, if not all, of the so-called conservative methods so loudly heralded. In all suppurative disease there is concurrent inflammation, and the part originally diseased is glued down on some neighboring structure, interfering with its function or with its anatomical relation, causing pain or discomfort, greater or less. It is argued by the conservative camp to take away just as little as possible, leaving adhesions if necessary to simplify the work. This to the thorough surgeon is not permissible. His aim is to remove disease and to bring the parts not diseased into

cancer, which was much ignored in a surgical point of view in France. A woman entered the hospital with gastric trouble, presenting all the symptoms of cancer and coinciding with the existence of an epigastric tumor. M. Ferrier performed laparotomy for exploring purposes, and found the stomach adherent to the walls of the abdomen and to the left lobe of the liver. After breaking down these adhesions, the operator closed the wound, and the patient gradually lost all bad symptoms, and left the hospital quite recovered. In concluding, M. Ferrier said that in many cases, purely inflammatory lesions could simulate cancer, and an exploring operation would put the case in its true light and do no harm to the patient.—*Med. Press and Circular*.

Treatment of Hydrocele.

A letter from France to the *Med. Press and Circular* says that the classical treatment of hydrocele, puncture and injection of tincture of iodine or some other irritating liquid, has been rendered much more simple by a surgeon who has published the result of several cases cured rapidly by the method. He inserts the trocar into the most dependent part of the tumor and removes the liquid; he then injects a five per cent. solution of carbolic acid, which is removed almost immediately. The trocar is introduced a second time into the canula, and pushing it up toward the highest point a counter-opening is made. The trocar is again withdrawn, and a drainage-tube is passed through the canula and left in position, the canula being removed. The patient can immediately get up and walk about. The drain is withdrawn on the fourth day, and in a week the man is cured.

Odd Methods of Syphilitic Inoculation.

Dr. W. Judkins (*Jour. Cutan. and Gen.-Urin. Dis.*) says syphilis is so widespread and contagious that it is rather surprising that it claims no more innocent victims than it does. The author now reports two cases contracted in barber-shops, one from the use of the hair clipper and one from a popular syphilide of the barber's hands.—*St. Louis Clinique*.

BIOLOGY.

Is Biliary Lithiasis of Microbic Origin?

This question was discussed in a paper by A. Gilbert and S. A. Dominici at the last meeting of the Society of Biology. Since Galippe in 1886 showed the presence of micro-organisms in biliary calculi the question has remained in abeyance until taken up by the authors. They have examined calculi from six cases. In two cases in which the lithiasis was of recent date they were able to demonstrate by coloration and culture the presence of organisms in the center of the calculi.

In two cases in which the lithiasis was of ancient date, examination yielded only negative results. In one case in which the lithiasis was of equally ancient date, cultures yielded only negative results, but in colored sections microbic forms were discoverable. In another case where old and recent calculi existed together, the first gave negative results, but the second, on the contrary, gave positive results, both in examination of sections and by cultures. Where culture succeeded, the organisms which developed belonged to the coli-bacillary species. These results are explainable by two hypotheses.

First, it may be assumed that the formation of calculi has preceded their invasion by bacteria, and this hypothesis is the more tenable from the fact that in cases where calculi contained the coli-bacillus the bile was infected with the same germ.

On the other hand, it may be assumed that the infection by the coli-bacillus has formed the initial stage from which this lithiasis has proceeded.

The authors adopt the second of these hypotheses. They have tried to verify the theory of the microbic origin of biliary lithiasis experimentally, and with this object they injected into the gall bladder of three dogs cultures of Eberth's bacillus and into the gall bladder of one dog Escherich's bacillus. Of the animals inoculated with the first-named bacillus the first succumbed at the end of a month with a suppurative cholecystitis and double pneumonia. The second died in three months without lesion of the gall bladder, and with a magnificent (*sic*) vegetating endocarditis of the mitral and tricuspid valves. The third was killed after three months, as also the animal inoculated with the coli-bacillus, but nothing was discovered after death. The experiments, under different conditions, are to be pursued by the authors.—*Med. Press and Circ.*

A New Process to Conserve Fresh Milk.

This new method of preserving milk is original, and, it is said, very effective. Large cylinders are partly filled with the milk, after which oxygen is forced into the cylinders at a pressure of two atmospheres. This procedure entirely sterilizes the milk, which may then remain for months in the cylinders without undergoing any change. It can be sent on long voyages with perfect safety. When it is wished to use the milk the gas is allowed to escape, and the contents of the cylinder are then found to be just as sweet as when first put in.

THE following micro-organisms have been found to be eliminated from the system by the liver through the bile: The bacillus of glanders, the bacillus of typhoid fever, the spirillum of cholera, the bacillus coli commune, the bacillus of anthrax, the staphylococcus pyogenes aureus, the bacillus pyocyaneus, Friedlander's pneumococcus and the bacillus murisepticus.—*American Medico-Surgical Bulletin*.

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their normal anatomical relation, and by so doing conduce more certainly to the ultimate well-being of the patient. From this point of view the operation that would remove a diseased tube and leave an ovary bound down by adhesions to the pelvic wall or to the intestine or omentum is not surgery at all; it is only experimental shilly-shally which, if it results well, is no credit to any one.

The same may be said if the method is applied to the conservation of a useless tube because it is hard to remove. To know that these cases may get well if we leave them when we have opened the abdomen to find them, puts our conservative in the light of doing a useless operation, and at once becoming conservative because it is the easiest thing to do. To leave a tube full of pus or blood, simply because it is hard to remove, is like building a bridge till we get into deep water and then completing it with a ferry-boat. The so-called conservatism has no right at the present time to argue from the standpoint of the infancy of abdominal and pelvic surgery, any more than the foggy who stays at home would have a right to justify his fears of travel by citing the dangers of sailboat travel as an argument against the ocean liners of to-day. To say that many ovaries have been removed which ought to have been saved is to say what we all know. Cures by operation have been sought where the procedure was not justifiable. We know that such errors were a part of the pioneer work—accidentally of the best men, designedly of the seekers after notoriety. But this does not answer the surgery of to-day; neither is it a fair accusation nor a plea. It is simply special pleading in the line of popularity. It is a fad which, like electricity, tickles the popular ear, the uncritical eye and the easily satisfied imagination.

The surgery that leaves pus tubes and abscesses to get well of themselves and afterward finds pregnancy occurring is so fabulous, mythical and mystical that I prefer simply to wonder without caring to understand or believe. If we are to have miracles and magicians with wonder-working tricks, let us swallow them whole, not try to digest, but lie stupid till they have worked their way through.

What I have here referred to incidentally leads to a broader reference to pelvic pathology. To understand the limita-

tions of conservatism, especially as applied to subsequent conception, it is necessary to consider the complexity of the pathological processes which militate against every chance of the organs regaining their physiological function. Pus tubes are not simple. It is the rule to find them with multiple constrictions and with the tube simply a wire line, its lumen a wreck. The history of the changes leading to this condition of things is often of the utmost importance in diagnosis. The earlier, non-operative period when the clinical and post-mortem conditions which were carefully noted, as in the researches of Bernutz and Goupil, have put us on the correct line of investigation and have taught us what to look for, where to look and how to distinguish necessary operative conditions. Studies in intestinal surgery and in the general physiology and anatomy of the intestinal tract are necessary for correct performance of this work, and the more general success of all sorts of abdominal operations at the present day is secondarily due to the wisdom of accrued experience and to the advances made in intestinal surgery with which pelvic surgery has so much in common.

Many of the operations now successful were formerly failures because of the insufficient knowledge of how to deal with wounded gut, how to make an anastomosis or to do a bowel resection. Hence it is to be put down as a postulate that no man has a right to attempt pelvic surgery who does not know how to deal with all the complexities of intestinal surgery. To know when to stitch and when not to stitch intestine is as necessary as to know when to operate and when not to. Incomplete work, here as in all other divisions of the art, is fatal to good results. A fecal fistula is often the result of careless handling or of inexcusable carelessness in passing over a bowel lesion. That we may tear an intestine is no reason for leaving an adhesion which may afterward cause bowel obstruction, and it is an undisputed fact that many of the bad after-results are due to carelessness in this respect alone.

The leaving of pus tubes to recover of themselves is just one step removed to stuffing them with gauze and trusting to Providence. To puncture, evacuate and stitch a suppurating cyst, say a real ovarian cyst, would be derided out of

sight, and yet we now have a set of operators who do not hesitate to do this with the smaller pus tube, smiling as they exercise the prudence which is the better part of their valor. I do not hesitate to say, and to say positively, that the men who descend to this sort of work are those who in their earlier history have been guilty of extreme rashness and now are hiding behind extreme prudence—so called. Take them one by one and look into their work, and you will find something in it that is frightening them now. All the so-called operations for room and light point to confidence insufficient to trust to a cultivated tactile sense. The removal of the sacrum for an ovariectomy or pelvic operation is no more justifiable or necessary than the resection of a rib for a simple pleurisy. Extreme resorts are in general the expedients of BAD SURGERY, which has lost its delicacy and seeks to take the disease by storm.

I cannot refrain from here paying my compliments to the Trendelenburg position in this connection, and saying that I find it just as useless in all abdominal surgery as it is for the operation of suprapubic cystotomy for which it was invented.

The various modes of treatment that have been suggested are scarcely to be noticed. They must stand or fall by their results. It is fair to assume where great results have been claimed, but the means have been problematical, that the disease was slight or imaginary; and so where some mechanical procedure, such as the Trendelenburg position, is said to have simplified and rendered easy all the difficulties of pelvic surgery, I must allow those to believe it who find the need of it, and say "*Credat judaeus apelles non ego.*" I put it down that the long incision and elevated position are not necessary, because with a minimum of incision and real surgical care the conditions that presumably demand them do not exist, and the advantages they offer are therefore mythical. I am willing to acknowledge that if a man has india-rubber or frozen fingers he can feel nothing; and that if he is blind and cannot feel he is not fitted for a surgeon; but I confess, moreover, that I am in no position to sympathize with such sufferers.

A word with reference to the assertion that with the Trendelenburg position there is no escape of fluid into the abdominal cavity. If there is a collection of any kind

in the tube, not over-distended, and the pavilion is attached to the ovary, it is an easy matter to enucleate the mass without rupture, but if the pavilion is attached deep down on the pelvic wall or to an intestine, what is to become of the discharging fluid? It is very easy to manufacture reasons that will not explain at all in the actual conditions of things. Any operator or set of operators who argue from a condition of affairs different from the above are taking a stand upon insufficient data.

Akin to all these undemonstrated claims are the tentative methods in certain conditions, such as gauze-packing and vaginal puncture for tubal abscess. Now it is a demonstrated fact that gauze does not drain anything but mere fluid matter; the *débris* of any sort whatever remains behind, and in the cheesy conditions which obtain in pus collections, it is a matter of utter impossibility to clean out the cavities by such packing. Then, again, the vaginal puncture is as uncertain as can be any procedure that does not reach to the bottom of the disease. Primarily we do not know the extent of the disease, nor its surroundings, nor its complications, and therefore we cannot drain it certainly by any one given puncture nor by any method save enucleation. After the enucleation is made the general cavity can be drained, and the results are in no wise questionable.

What shall we say as to the removal of the entire uterus in the presence of tubal and ovarian disease? I take it that if all the pathologists who have ever examined uterine structure—which is in great part muscular—were to make a report, there would be a consensus of opinion than an abscess condition of the uterine walls, apart from a broken-down fibroid, is the rarest condition imaginable, save at the cornua, in case of pyosalpinx. The disease here is strictly definable and removable. It is an unjustifiable assumption to assert that the uterus is diseased and is the reason for the failure of cure in certain women whose appendages have been removed. To remove, therefore, an organ which in a great majority of cases is not even remotely diseased is a seeking after means to obviate predicated bad results which could not be otherwise explained. When men are on record as saying that it is impossible to remove tubes and ovaries without leaving some ovarian tissue, do we go very far astray in thinking that they must

also leave diseased structure sufficient to cause trouble or that their methods are otherwise imperfect?

Again, the arguments for this ultra position all come from sources prone to bemoan bad results. It must be remembered also that there is a difference to be noted in the cases from which they would assume their data. The disturbances due to fibroid tumors are developed at a rather late period, while those necessitating the removal of the appendages are of earlier origin. Hence it is nonsense to argue that the condition of the patients should be similar. If the trouble, nervous or otherwise, is no greater in a woman after operation than it would be at the menopause, are we justified in doing a hysterectomy on every woman whose tubes and ovaries are diseased? I think not. To argue that we need not do an entire hysterectomy, but may leave the cervix, is the weak answer of an uncertain position. The cervix, of all parts of the

uterine structure, is most prone to malignant degeneration, and this one fact would be the most sensible standpoint from which to argue the total ablation of the uterus in cases in which the operation would otherwise be indefensible.

In conclusion, we are to remember that enough has been done of all kinds of pelvic work to decide the general trend of results; how far they are satisfactory and how far disappointing. The end should justify the means, not in the hands of the disappointed experimentalist, but in those of the careful, painstaking surgeon; one with a conviction and a faith born of experience and care; one who each day balances his accounts with himself, not seeking to escape the onus of a failure by a flight into unknown seas; who gathers himself together, makes no one mistake twice, and evolves a system which is not of dreams but of reality, and which bears a harvest of results which need no explanation nor apology.

TREPHINING IN HEAD INJURY WITH PARALYSIS OF OPPOSITE ARM FOLLOWED BY FUNGUS CEREBRI.*

R. M. HARBIN, M.D., CALHOUN, GA.

Since apparently trivial injuries to the head are so often followed by unfavorable results both immediate and remote, we are led to consider them more carefully with reference to radical treatment, and it is from a study of cases that do not do well that we derive more practical information. Among the immediate dangers of head injuries to be considered are symptoms of compression, paralysis, inflammation of brain substance and abscess, and among the remote dangers are atrophy of muscles, insanity and epilepsy.

I have a case to report, and my reasons for doing so are that it is a typical case of head injury, furnishing a distinct indication for operative interference, and that it is a striking example of the practical value of the applied rules of topographical anatomy of the brain.

W. S., aged twenty-five, whose previous health and family history was good. Was called to see him December 15th in con-

sultation with Dr. J. H. Malone, from whom I obtained the following history. Three days previous the patient in a fight was struck upon the head with the heavy end of a thirty-ounce billiard cue and was carried home in an unconscious condition. His wounds were dressed and he revived to a half-conscious condition in two hours, having vomited a number of times. There were a number of wounds about the scalp, but only one was of any serious consequence, and it was a gash about two inches long, on right side, extending from median line at a point about two inches anterior to middle point between occipital protuberance and root of nose, extending outward and backward. He complained of intense throbbing headache at locality of wound and was very restless and irritable, although able to sit up.

I saw him on third day after injury and found above symptoms aggravated, with his opposite or left arm completely paralyzed, sensation being normal. His pul-

*Read before the Georgia State Medical Association, April 20, 1894.

sating headache made him prefer to sit in an elevated position; pupils were dilated and pulse subnormal, varying from 48 to 60, and temperature normal. A saline purge was given and then bromide and ergot with cold applications. We diagnosed compression of brain probably due to blood-clot on motor tract for arm on brain cortex, since the paralytic symptoms were gradually developed. The above plan of treatment was continued until seventh day, when his symptoms became more profound and he had a rise of temperature. The clot neither showed any signs of absorption nor indicated any tendency to become organized, and we realized that the immediate dangers were from inflammation of brain substance and abscess and the probability of clot increasing its area of compression. And the remote dangers to be considered were from insanity, epilepsy, and atrophy of muscles of left arm. The indication for operative interference being clear, we advised trephining, which was done on the seventh day of injury. The scalp was shaved clean and washed; the fissure of Rolando was indicated by Champonnier's line. We drew a horizontal line backward from posterior border of malar process of frontal bone on a level with upper and outer angle of orbit. A perpendicular line 1 1-5 inches long was drawn at a point on the horizontal line 2 4-5 inches from posterior border of malar process of frontal bone. These lines were marked with pen and ink and gave us a point C on the scalp. Another point D in the median line was obtained by measuring $\frac{3}{4}$ inch posterior to middle point between root of nose and lower edge of occipital protuberance. These two points C and D were connected with a straight line, which indicated the fissure of Rolando; a point opposite and anterior to median point of this line indicated the middle third of ascending frontal convolution, and this point was about one inch external to the scalp wound.

The course of white motor fibers in the brain is interesting. The motor fibers for the arm arise from ganglionic cells in the middle third of the ascending frontal convolution on both sides of fissure of Rolando and pass downward (joining white motor fibers for the leg coming from summit of ascending parietal convolution; joining those for the face from lower third of as-

cending and foot of second frontal convolutions, and joining those from Broca's speech center in foot of third and lower third of ascending frontal convolutions), converging and occupying bend of internal capsule; then passing into crus cerebri occupying its basal middle two-fifths, and then into pons Varolii, the fibers becoming divided and again converging into the medulla. Most of the fibers decussate here and pass down in lateral tracts of spinal cord (the remaining fibers pass down in anterior columns), and then out by anterior roots of spinal nerves, to be distributed to the arm through the brachial plexus.

The scalp was cleaned and the rules of antisepsis and asepsis were rigidly observed. Ether having been administered and a rubber tube passed around the scalp to prevent hemorrhage, a crucial incision, the cross being over the point selected, was made down to the bone, and a fissured fracture was now observed running the entire length of incision almost parallel to the sagittal suture, and there was no depression of bone. The line of fracture passed through the point selected for trephining, and a seven-eighths-inch trephine was set a little in front so that its circumference passed through the fissure. At every few turns of trephine the track was irrigated with a 1:4,000 bichloride solution and carefully cleaned. When the disk of bone was removed, a black clot was seen at the bottom between dura mater and skull and was irrigated with warm boiled water. The clot occupied about three-quarters of area of trephine, extending backward and inward, and was removed by forceps and irrigation. If we had used point first selected we would have come upon the clot centrally. The clot was about one-third inch thick and oblong in shape, its area equaling that of a silver dollar. The edges of bone were made smooth and hemorrhage checked by hot boiled water in twenty minutes. The finger was passed under the skull, but no spiculæ of bone could be found, and it was not deemed necessary to open dura mater. The wound was closed with cat-gut and dressed antiseptically. After the operation the patient was put to bed and given hypodermically morphine $\frac{1}{4}$ grain, and atropia $\frac{1}{16}$ grain, from which he rested well that night. A saline purge was given next day and morphine again

on second night; after that bromide was sufficient to secure rest. Head was kept elevated, a light diet allowed, and on second day he was permitted to sit up some. Slight motion in arm returned before end of twenty-four hours and was confined to flexion and extension at elbow and shoulder joints, which proved that pressure had been removed. He now complained of no headache and felt well every way. The highest temperature was $101.3-5^{\circ}$, and pulse 90 on evening of third day, but soon returned to normal.

On January 3d, that is, the fourteenth day since the operation, I noticed a protruding mass pushing apart the edges of the wound while dressing, and readily recognized it to be fungus cerebri, or hernia of the brain. It probably had existed four or five days previous, during which time I had not seen it, as I had intrusted the dressing of the wound to the nurse, who allowed the bandages to become very loose. The patient had walked out of the house and overloaded his stomach, which caused vomiting, but the effect soon passed off. Compression was applied by means of roller bandages and sponges, and the mass was reduced somewhat, but by the twenty-eighth day it began to increase in size again and there were symptoms of brain irritation; headache, frequent and slow pulse, and temperature normal. I cauterized the fungus repeatedly with lunar caustic, but with little effect. The movements of left leg now became impaired, but he could walk alone. On the forty-second day a pocket of pus formed just behind the fungus under the scalp, but was opened and the symptoms improved. But on the forty-seventh day his symptoms again became worse, and he had vomiting and intense headache, pulse small and feeble, and temperature 101.1° F., but his mental faculties were clear. These symptoms continued, and on the fifty-third day there was escape of cerebro-spinal fluid. His mind now became blurred and he was delirious at times, with occasional vomiting, pupils dilated and fungus was now the size of a hen's egg, but somewhat flattened. Paralysis in both arm and leg was now complete. He became unconscious and passed into a coma three days before his death, which occurred on the sixty-fifth day after the operation. An autopsy was refused.

We frequently have such cases of head injury, although the symptoms of all are probably not so well defined. They are apparently not of very serious moment, but after a number of days develop meningitis or abscess, or else are followed later by epilepsy and insanity or permanent paralysis. In this case trephining was positively indicated, although it was followed by fungus cerebri. This complication usually is not to be expected with proper precautionary measures, and the probability of its occurrence does not materially enter into consideration in deciding upon the operation. A peculiarity of this case is the occurrence of this complication where there was a small trephine wound and no apparent injury to the dura mater. The treatment of fungus cerebri is unsatisfactory and most text-books speak of it evasively. As to the treatment of my case, I did not attempt anything radical on account of its medico-legal aspect.

Trephining under the rules of antisepsis and asepsis is not dangerous. Cases nearly always get well where there is no serious brain lesion, and even in extensive brain injury it does not materially add to the danger of the injury. Many cases of head injury are followed by epilepsy and insanity or permanent paralysis that could be prevented by the trephine. I have a case under observation now that I treated five years ago for head injury that was followed by irritative symptoms and three years later developed epileptic convulsions of an obstinate character. The operation would evidently have prevented this.

The practical deductions to be made from this case are:

1. That this patient would almost certainly have died in the first instance had not the clot been removed.
2. That there was a positive indication for trephining.
3. That it furnished a striking example of the practical value of the applied rules of topographical anatomy of the brain.
4. That the prevention of fungus cerebri is more important than the cure, and with proper precaution it is not to be looked for.
5. That the occurrence of fungus cerebri is very unusual in such a small trephine wound without injury to the dura mater.

A NEW QUESTION IN MEDICAL JURISPRUDENCE—AN
ILLUSTRATIVE CASE—MEDICAL EXPERT TESTIMONY—LAWYER'S BROW-BEATING.

JOHN M. CURRIER, M.D., NEWPORT, VT.

On the 24th day of November, 1893, Isaac Miles, of Greensboro Bend, Vt., disappeared and was never again seen alive. He was last seen in company with James Bow, night watchman at the steam saw-mill, and Abner G. Cram, who was hanging around the engine-room of the mill. On April 24, 1894, the body of Miles was found under a pile of boards near the mill, with his skull extensively fractured; one of his malar bones was also fractured. The brain was softened so that a part of it ran out as the head was turned to one side. An autopsy of the body was made by the local physicians under the direction of the Board of Civil Authority. Suspicion at once rested upon Cram and Bow, and they were accordingly arrested upon the charge of murder, had a preliminary hearing before a justice of the peace and were lodged in jail to await trial at the September term of the county court. Cram was found guilty of manslaughter and Bow was set free.

At the trial the defense raised the question: Could the freezing of the brain during the winter cause expansion enough to fracture the skull? Expert testimony was introduced with the view to establish this point sufficiently to throw a doubt in the minds of the jurors. The State, anticipating that this question would be raised, had several physicians summoned to testify against it. In the defense it was claimed that the head was driven into the ground sufficiently far so that the expanding earth would fracture the skull and malar bone by force from without inward. This was a point well enough for the defense to make for the purpose of befogging a jury, but not very logical. If the brain would expand in freezing sufficiently to fracture the skull, the force from within outward would be counterbalanced by the freezing earth from without inward. None of the physicians who testified had ever seen a case of freezing of the brain or ever made an autopsy of one that had been frozen; consequently they could not testify from experience. The usual cross-questioning by the opposing counsel was made with

the view solely of making the expert witnesses appear as ignorant and inefficient as possible, instead of eliciting the truth. One question that was asked by the counsel for the State of the medical witness called by the defense that should have been ruled out as an insult was: If a man's head was cut off, would he die? Such questions do no honor to the legal profession and their answers do not detract from the dignity of the medical profession. They must appear to the jurymen as trifling.

Will the brain of man or any animal expand enough from freezing to fracture the skull or cause a separation of the sutures? If a person freezes to death, the external parts of the body are the first to freeze, the internal parts are the last. If there should be a tendency for the brain to expand, the pressure would be from without toward the center and cause the blood to be driven down through the veins into the body; but if the person or animal dies before freezing, then there would be a greater tendency for the brain to expand, because the brain would be filled with blood, but not enough to produce a fracture of the skull. The cavity of the skull in life is a shut sac, and it is impossible to pump the blood out of it without supplying its place with some other liquid.

I have seen the skulls of animals that died in the winter months and were thrown out and exposed to very low temperatures, but none of them was ever fractured by the expansion of the brain.

I will relate one case that came under my observation in the town of Bath, N. H., in February, 1855, that comes directly to the point in this case. I was stopping with my brother one very cold day, when between two and three o'clock in the afternoon a drunken tramp by the name of "Bart" Somers called with a jug of rum. He took another "swig" from the jug and left the house before three o'clock; he went about eighty rods, sat down by the side of the road, took another "swig," according to indications, leaned over and took his "last sleep." The body was not found till the next

day at eleven o'clock in the forenoon. It was frozen so stiff that none of the limbs could be flexed or extended. The thermometer registered not less than 28° below zero during the whole night. The body was thus exposed to that low temperature about twenty hours. An inquest

was held by the authorities and a thorough examination of the body was made. There was no fracture of the skull nor separation of the sutures to be found. This case proves conclusively that the freezing of the brain cannot produce a fracture of the skull.

COMMUNICATIONS.

THREE CASES OF ABDOMINAL SECTION FOR TRAUMATISM.

ROBERT G. LE CONTE, M.D., PHILADELPHIA.

These three cases occurred at the Pennsylvania Hospital. The first, C. I., an Italian laborer, aged thirty-five, was brought in by the patrol at 7:30 P.M., August 2, 1893, in a condition of profound shock. He had received four wounds from a thirty-eight-caliber revolver. The first had penetrated the abdomen in the left lumbar region, on a line with the umbilicus; as he turned to run away he received a second in the left side, between the twelfth rib and the crest of the ilium; the third penetrated the back in the left lumbar region, and the fourth passed through the right arm at the upper third. Hypodermics of strychnine and digitalis were given with external heat, etc. When his temperature began to rise he was immediately placed under ether. The abdomen was opened in the median line, and the cavity was found full of blood. Fifteen perforating wounds of the intestine were brought together with fine silk by means of the Lembert suture, and four wounds of the mesentery, in which the bowel was not involved, were stitched together, besides a few nicks in the bowel which had not penetrated to the mucous coat. A hasty examination of the spleen, stomach and liver was made, and as far as I could tell they had not been wounded. As the urine came clear from the catheter it was inferred that the kidneys had not been touched. The abdominal cavity was then flushed out with warm distilled water that had previously been boiled until the fluid ran clear, a glass drain inserted, and the abdomen closed with silkworm-gut sutures, the fascia being brought together

with a continuous catgut suture. During the etherization the patient's condition was very bad, and hypodermics of strychnine and digitalis had to be repeatedly given. The operation lasted not quite two hours. At the conclusion his temperature was 97° and the pulse was almost imperceptible. The treatment consisted of strychnine, brandy and digitalis by hypodermic, and nothing was given by the mouth. At 3 A.M. the temperature had risen to 101° ; pulse 96 and weak; respiration 30. He was delirious and very restless, and he had to be strapped and morphine given. At 10 A.M. his condition had improved. Temperature had fallen to 99° ; pulse 110 and stronger; respiration 24, and he was quiet and his mind was clear. During the night the glass drain had been sucked dry every ten or fifteen minutes with a syringe, and the quantity of blood or bloody serum withdrawn amounted to about an ounce an hour. This gradually diminished to half an ounce by morning; urine was passed free from blood.

At 4 P.M. his temperature was $98\frac{1}{2}^{\circ}$, pulse 114 and respiration 22. The abdomen was moderately distended, and there was frequent belching of wind, but no vomiting. No flatus had been passed. Toward evening the temperature began to rise, the pulse became weaker, delirium set in and the patient slowly grew worse until death intervened the next day at noon, thirty-seven hours after operation. The post-mortem examination was made by the coroner's physician, and as I was not present I only have the few notes made by him. Two of the bullets were recovered;

one had entered the liver from behind, passed through it and lodged in one of the short ribs on the right side; the other was found just under the omentum near the stomach. None of the stitches in the intestines had given way and no extra perforations of the bowels were found.

Both of the other cases occurred in colored men, stevedores by occupation, strong and beautifully muscled specimens of manhood. They were admitted on the evening of the 10th of last February. The younger, Alex C., aged twenty-three, was stabbed in the abdomen a little below the umbilicus and about three inches to the right of the median line. The wound was a little over an inch long on the skin surface, and a small piece of omentum was protruding from it. There was very slight shock. The patient was immediately etherized, the abdomen opened in the median line, the omentum withdrawn through the median incision, the protruding portion ligated and cut off. The small intestine and cæcum with part of the ascending colon were next examined and no wounds found. The stab-wound was closed with two silkworm-gut stitches, the peritoneum washed out with warm boiled distilled water, and the abdomen closed without drainage with silkworm-gut sutures, the fascia being brought together with a continuous catgut suture. The next day his temperature rose to 100° and then fell to normal, and he made an uninterrupted recovery. The stitches were removed on the ninth day and the wound was entirely healed.

The elder, Frank W., aged forty, also had a stab-wound in the right upper hypogastric region, about two inches from the median line. He had had free hemorrhage from the wound, as his clothes were partly saturated with blood. The cut on the surface was a little less than an inch long, and after enlarging it slightly my finger readily passed into the abdominal cavity. There was but little shock. The patient was etherized and the abdomen opened in the median line. A quantity of arterial blood immediately presented. The bowel and the omentum were carefully examined and no wounds found. It was then concluded that the deep epigastric artery had been severed, and as I did not think it desirable to enlarge the stab-wound, two deep sutures were passed on either side of it, through the peritoneum,

and tied. The stab-wound was then closed with silkworm-gut, the peritoneum washed out, and the abdomen closed in the same manner as in the previous case. As I was not absolutely confident that I had checked all the hemorrhage, and thought it possible I might have overlooked some bleeding point, a glass drain was left in. The tube discharged about 15ss an hour of bloody serum during the night, and then gradually diminished in quantity. The next day his temperature went up to $101\frac{1}{2}^{\circ}$ for a few hours, but soon fell to normal again. On the 17th, seven days after operation, he developed a mild delirium which was thought to be alcoholic, and he was placed on the ward delirium tremens mixture. This subsided by the 23d. On March 3d he was allowed to get up, the wound being healed, except for a small superficial ulceration, the remains of the tract formed by the tube.

I should like to present the following points for consideration this evening:

1. That the surgeon must assure himself absolutely that the peritoneal cavity has been opened before proceeding to operate, either by means of the finger or probe, or the protrusion of some of the abdominal viscera or contents of the viscera. If the wound is so small that this cannot be demonstrated, it must be enlarged with the knife, until it is proved either to have penetrated or not to have penetrated.

2. That as speed is such an important factor in these cases, and that the patient's chances of recovery often diminish proportionately with the length of the operation, I would advocate the median incision in all cases except where the liver has been manifestly injured, because the abdominal cavity can be opened more quickly and more bloodlessly in the median line, and a more thorough search of all the organs can be made in a much shorter time than from any other incision, and also because the wound can be more quickly closed and with less danger of a future hernia resulting.

3. The abdomen having been opened and a number of wounds of the intestines found, I would advise that two surgeons should work at the same time, sewing up these perforations, using the continuous or running Lembert suture as a means of saving time, the rest of the intestines be-

ing covered with hot cloths to prevent shock. Fine twisted silk is the best suture for this purpose, and the needle must be smooth and round, without sharp edges.

4. I would recommend the flushing out the peritoneal cavity with a warm solution as a means of cleansing it from clots, blood, etc., as a means of reducing shock, and also because it allows the intestines to float and to resume as nearly as possible their normal position in the abdominal cavity. This solution should be warm water that had previously been sterilized by boiling, containing seven-tenths of 1 per cent. of salt, as the blood, when freed from its solid constituent, represents most nearly a seven-tenth of 1 per cent. salt solution both in its reaction and specific gravity. It is a well-known fact that two fluids of different density and reaction, when separated by a thin animal membrane, will mingle by osmosis, and that pure water will in such cases abstract the salts from the blood, causing a primary blanching of the membrane, soon followed by a secondary hyperæmia, with injection of its vessels. If the eye be washed with pure water, an injection of the vessels of the conjunctiva will follow, but if a little salt is added to the water, no injection will result. It is easy to conceive that the action of pure water on the conjunctiva would also follow in the case of the peritoneum, and experiments on animals have proved this to be a fact.

5. Unless the operator is certain that he has checked all hemorrhage and that there is nothing more than a slight oozing present, I would recommend the use of a glass drain, believing that the dangers of infection through the tube are much less than from a small collection of bloody serum, a most acceptable medium for any septic material which may not have been removed by the flushing out of the cavity. The drain should not remain in more than thirty-six or forty-eight hours, as in that time lymph has been thrown out from the adjacent peritoneum, gluing the tissues together, so that a perfect tube-tract has been formed, after which the tube is more dangerous than advantageous.

6. That the incision should be closed by passing a set of silkworm-gut sutures entirely through the abdominal wall, from skin to peritoneum, and, before these are tied, stitching together the fascia with a

continuous catgut suture. As the fascia is by far the most important structure in the support of the abdominal contents, it is necessary that its edges should be neatly and closely approximated, and for this purpose a moderately thick catgut suture, which is allowed to remain buried in the tissue, gives the best results. The stitches through the abdominal wall will bring the peritoneum together just as well when it is separately sewed, and saves the time that this extra row of sutures would require. For this purpose silkworm-gut is preferable to silk, as it is not irritating and non-absorbent, while silk acts like a drain, carrying the discharges through the whole course of the wound. If these discharges at any time become septic a stitch-abscess results. The stitches should remain in eight or nine days, after which the wound is supported by adhesive straps, and when the patient is allowed to get up, not before the twenty-first day, an abdominal supporter should be worn for several months. If the patient is much beyond middle life the supporter may have to be worn for years.

Lastly, the after-treatment of the patient. As the wounding of the bowel and the necessary handling of that viscus in sewing up the wound and examining it for further perforations causes paralysis of the gut, with its concomitant distention from gases, the after-treatment should be directed toward the relief of this distention and the overcoming of the paralysis, as to my mind there is far more danger of the sutures giving way from this over-distention than there is from any peristaltic action that can be induced. Secondly, paralysis of the gut favors ptomaine absorption, and the sooner this paralysis is overcome and the poisonous substances swept out of the alimentary tract, the greater are the patient's chances of recovery.

I would therefore advocate the use of salts, because they excite peristalsis, relieve the distention, and sweep the ptomaines out of the alimentary tract, besides drying the peritoneal cavity, and thus removing a possible source of septic infection. I believe the exhibition of opium to be strongly contraindicated, as it increases the paralysis of the bowel, allows the tension on the stitches to become very great from over-distention, and favors the absorption of ptomaines. Of

course, there are a certain number of cases where restlessness is marked, and where the dangers of its exhausting the patient are so prominent as to make it the cardinal symptom to combat. In these cases morphine must be given by the hypodermic until quiet is obtained.

To sum up, my treatment would be as follows: Strychnine, brandy and digitalis by the hypodermic, water containing a little salt by the rectum, to quench thirst. Six hours after the operation one-half-grain doses of calomel by the mouth for six consecutive hours, and then drachm-doses of Epsom salts every hour, given in as concentrated a form as possible, until the bowels are moved. No food until the functions of the bowels are well established, and then milk only in small quantities often repeated. I have seen the bowel twice ruptured in the removal of

abdominal tumors, owing to its strong adhesion to the growth. In each case it was promptly sewed up, and the removal of the growth proceeded with. The patients were placed on the usual treatment of calomel, followed by salts, and each made an uninterrupted recovery. On talking this over afterward with the operator, he stated that when the adhesions were so strong that it became a question of rupturing the bowel or not removing the tumor, he always chose to rupture the gut, as he had never had any bad results follow, or seen a single symptom which could be attributed to this rupture.

In conclusion, I believe that the three great causes of death in these cases are shock, ptomaine absorption and peritonitis, in the order named, and that the treatment should be successively directed against them.

CASE OF GUNSHOT WOUND OF ABDOMEN AND LUNG.

LEWIS W. STEINBACH, M.D., PHILADELPHIA.

A. H., aged thirty-six years, white, a Philadelphia police sergeant, was admitted to the Polyclinic Hospital August 30, 1894. Twenty minutes previous to admission he had been accidentally shot in the abdomen by a 44-caliber pistol.

His temperature on admission was 98°, pulse 60, respiration 28. He was weak and faint, although externally he had not lost much blood. With the assistance of two officers he had walked from the place of shooting to the hospital, comprising several blocks.

Patient complained of some pain around umbilicus, and was unable to void his urine.

The history obtained from the patient states that he was sitting in a chair, while the person who shot him was standing to his right, the pistol pointing slightly to patient's left. On examining the abdomen a small wound one-quarter inch in diameter was seen two inches below and to the right of the umbilicus.

After cleansing the part a probe was gently inserted into the wound, and it was probed in all directions. The muscles had been torn up in several directions, so that this was not satisfactory, although there seemed to be a track in an upward

direction and to the left, which from the history seemed to be the true course which the ball had taken. A small quantity of sterile water was then injected into the wound; but, as it returned, it could not be made out that the abdominal cavity had been entered, although this was what was thought to be the case.

Upon consultation with three of the hospital surgeons it was decided to etherize the patient, follow the upward track, and if the abdominal cavity had been entered, to do a coeliotomy in order to ascertain the extent of injury.

Patient was etherized, and after all antiseptic precautions had been taken, a grooved director was introduced into the wound, and after some little trouble, as the track was irregular, it was laid open to about an inch in extent. Upon pushing the director further it entered the peritoneal cavity. The consensus of opinion was to do a laparotomy. A three-inch incision was made in the median line, and upon opening the peritoneal cavity a considerable quantity of blood escaped through the wound. The intestine was carefully examined, and nine perforations made by the bullet were found. These were principally in the lower part of the jejunum and the

ileum. One was wholly in the mesentery, while the others chiefly lay at junction of it with intestine; and it was from these that the greater part of the blood was oozing. The colon was not perforated.

The various perforations were sutured with Lambert suture, silk being used. After carefully going over the small intestine they were replaced, and the abdominal cavity thoroughly washed with warm sterile water until all blood and clots were removed and the fluid returned clear. A glass drainage-tube was placed in the lower part of the wound, and silkworm-gut sutures introduced, closing the incision. The ordinary antiseptic dressing was applied.

The bullet had not been found, but was thought to have taken an upward course to the right of the spinal column.

The operation was a long one, and it was found necessary to administer strychnia and atropia to combat the shock. Temperature after operation was 99.8°; pulse, 120; respiration, 28.

The patient came out of the ether and seemed to rally; but during the evening his pulse became weak, thready, and very rapid, reaching 156 by 9 P.M. The temperature kept rising slowly and steadily until 3 A.M. it reached 102.4°. About

3iv. fluid blood and serum was obtained through the drainage-tube. It did not clear, though it lessened in quantity toward morning. It was also noticed that the patient coughed up a small quantity of a dark chocolate-colored fluid. Stimulating treatment was kept up during the night. He complained greatly of thirst, was extremely restless, it being with difficulty he was restrained in bed. But at no time did he complain of pain.

The pulse became weaker and weaker, and at 8:36 o'clock the morning following operation he died. Temperature taken half an hour previous to death registered 105.6°.

An autopsy was held by the coroner, and it was found that the bullet had pursued an upward course after striking the spinal column, passing beneath the diaphragm, rupturing some of the vessels at the root of the right lung, which was engorged with blood. The right pleura was filled with blood. There was also blood in the abdominal cavity, due to rupture of small vessels in liver tissue. The intestines looked ecchymotic in places; but the places that had been sutured showed commencing union. The bullet was not found, but traced to muscles of the back.

CASE OF GUNSHOT WOUND OF LIVER AND LUNG.

THOMAS S. K. MORTON, M.D.,* PHILADELPHIA.

A boy, aged nine and a half years, was admitted to the Pennsylvania Hospital; September 11, 1894, with a history that he had been shot by a 32-caliber revolver at short range but a few moments previously. I saw him almost at once after admission, and found a bullet wound one and a half inches below and half an inch to the left of the ensiform cartilage. He was not especially shocked. Was said to have vomited considerable blood, and complained of great pain in the epigastrium. Abdomen not distended.

Ether was administered and perforation of the abdominal cavity proved by enlarging the bullet wound slightly and passing a probe. Having thus made certain that the peritoneum had been entered, an incision was made in the median line from

the ensiform cartilage downward for four inches. Upon laying open the peritoneum much fluid blood and some large clots flowed out. It was found that the ball had passed through the right lobe of the liver, two and a half inches behind the anterior margin, then emerged just above the gastro-hepatic omentum, had almost totally destroyed the lobus Spigelii, then had torn a large hole in the lesser omentum, again perforated the peritoneum, struck the first lumbar vertebra, and became lost. Blood welled up in large quantities from the posterior peritoneal opening, mostly venous, but partially arterial. A finger-tip only could be passed into this wound. There was no wound of stomach or intestines. The wound of the right lobe, as well as that of the Spigelian lobe of the liver, was not bleeding. A column of iodoform gauze was carried

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down so as to block the wounds of the lesser omentum and posterior layer of the peritoneum, and at the same time to press upon the mutilated Spigelian lobe and posterior or exit wound of the right lobe of the liver. The packing was continued and brought out through the parietal wound. The wound of entrance into the right lobe was not interfered with. The abdominal wound was now closed around the gauze drain after copious irrigation of the surroundings with hot salt solution. As it was suspected that much blood had gravitated into the pelvic and lower portions of the abdomen, which could not readily be washed out by irrigation from above, it was determined to make a small opening above the pubis for that purpose and to put in a drain-tube. Accordingly a half-inch incision was made just above the symphysis, and much fluid blood and clots were washed out through it by means of a long irrigator tube. A glass drain was carried through this wound down to the bottom of the pelvis, to serve as an index should further hemorrhage take place into the abdomen. But despite all

efforts the lad died in a few hours. At the post-mortem examination it was discovered that the ball had passed between the aorta and vena cava, and perforated the right crus of the diaphragm before striking the first lumbar vertebra. In the latter it cut a large groove, and was deflected upward and outward through the pleura and into the substance of the right lung, where it was found imbedded. The lower lobes of this lung were distended by blood, and over a quart in addition filled the pleural sac. No wounds of other viscera were discovered. There was no blood in the abdominal cavity.

Upon careful inquiry after death I ascertained that the reported vomiting of blood had been incorrect; that in reality he had coughed up and not vomited it. No especial examination of the chest was made before operation, and no signs appeared to call attention to that locality. But the bleeding therein was unquestionably the immediate cause of death. Had the ball not wounded the lung I believe the boy would have had a good chance of recovery afforded him by the operation.

TRANSLATIONS.

PATHOLOGIC ANATOMY AND PHYSIOLOGY OF GENERAL PARALYSIS.*

Joffroy (*Le Bulletin Médicale*, June 13, 1894) has presented a recapitulation of the microscopic lesions and of the pathologic physiology of general paralysis. In the one the origin of the disease is stated to be a sclerous encephalitis, the lesions of the vessels and of the interstitial tissue being primordial; the other theory, on the contrary, considers the beginning of the histologic process as residing in an alteration of the gray elements of the brain, the cells and nerve tubes, and the interstitial lesions as secondary, following at a period more or less late.

The microscopic lesions of the disease are as follows. The alterations in the vessels, it is necessary to recognize, hold the first place because of their intensity. There is an accumulation of nuclei around their walls; there also exists a state of repletion of all of the vessels—the arteries, the

capillaries and the veins are distended and gorged with blood. In fact, the vessels appear to be more numerous than in the normal state, but Joffroy doubts whether there be an actual multiplication; he attributes their appearance of increase in number to an atrophy of the nervous substance. The volume of the brain being diminished the vessels approach one another, and this results in a change of aspect which may cause an appearance of multiplication. All the writers have noted the multiplication of nodules in the vascular walls. This lesion is not absolutely constant and is ordinarily more marked when the disease is of ancient date. If, on the contrary, the duration has been short, generally very few of the proliferated nodules are to be found. In the old individuals there may also be noted a granulo-fatty degeneration of the small vessels which results from an alteration in their external tunic and especially in their middle

* Translated for THE MEDICAL AND SURGICAL REPORTER by W. A. N. Dorland, M.D.

coat. Mendel, according to whom the cortical vessels play an important rôle, has described in the altered vessels miliary aneurisms, ampullary dilatation. A lesion of great importance consists in an extravasation of leucocytes into the adventitious sheath of the vessels. This diapedesis is constant; it is found in every autopsy of general paralysis, whatever may be the age or form of the disease, whether of long or short duration.

The extravasated leucocytes are normal or granular. At times the lymph spaces are filled not only with white globules, but also with a certain number of red corpuscles. In certain cases may also be seen the gelatinous corpuscles to which Dagonet has recently called attention. These are hyaline balls, grouped in a circle, disposed in rosettes and composed of altered nervous substance. The diapedesis is a fundamental lesion as much from its constancy as from its intensity and its significance. When the disease has been of long duration in certain cases may be noted a thickening of the walls of the vessels, with a modification of appearance which has been described under the name of vitreous degeneration by Meyer, hyaline degeneration by Fischl, Thomas and Holschewnikoff, amyloid degeneration by Tigges, colloid degeneration by Magnan, and waxy degeneration by Lubimoff.

These different forms of degeneration appear when there has been a rapid absorption of the nervous substance, and have also been frequently noted in syringomyelia. The lymph spaces, both perivascular and pericellular, are dilated. The neuroglia presents some important modifications. The most important of these is an increase of its substance in every portion of the brain, as demonstrated by Magnan. The neuroglial cells are increased in volume, some attaining enormous dimensions; they present numerous and larger prolongations and appear to be increased in number; this, however, is due to an atrophy of the nerve tissue between them. Nevertheless a true karyokinesis exists in the proliferated nodules.

Alterations in the Nervous Elements Themselves.—These are constant in the course of general paralysis. In 1884 Tuczek demonstrated the disappearance of the intracortical, transverse, tangential and subcortical fibers of the myelin. This lesion is manifest and may be noted throughout the entire convolutions. It

has also been noted in the optic thalami, as has been shown by Lissauer and Zagari, in the geniculate ganglia, the quadrigeminal bodies and in the cerebellum. It is especially in the cortical substance, however, that the disappearance of the tubes is to be noted. Certain authors have noted that this lesion of Tuczek is not restricted exclusively to general paralysis; it is also found in senile dementia and in the neighborhood of cerebral tumors. The lesions of the nervous cellules have been carefully described by Meschede. The lesions of the neuroglial tissue and of the vessels are generally predominant; in certain cases the cerebral cellules are diminished in number and at times exceedingly atrophied. In 1891, in the Congress of Mental Medicine, Joffroy substantiated the opinion that general paralysis was a parenchymatous encephalitis, and this view has been taken also by Professor Pierret. He considers that the primary cause of the disease resides in heredity or predisposition, while alcoholic, saturnine, syphilitic and puerperal poisonings merely act as accessory causes.

Bone-Marrow in Anæmia.

Dr. Dixon recommends bone-marrow extract in the treatment of anæmia. The red marrow of bone being probably the chief agent in promoting the development of red-blood corpuscles, it seemed feasible to suppose that an extract of this substance, if introduced into the anæmic human organism, might act as a stimulant to the formative process and increase the rate of production of the red corpuscles. As the tissue-forming power in young animals is more active than in older animals, the bones of the former are preferable as a source of marrow extract. (To prepare the extract the heads of the long bones obtained from recently-killed animals are broken into pieces and digested in glycerine, with frequent agitation. When the extraction is complete, after several days the extract is filtered off and is ready for use. It is red or reddish-brown in color and is devoid of any unpleasant taste or odor.) It may be given in teaspoonful doses once or twice a day, either out of the spoon or spread between thin pieces of bread. In several cases of pronounced anæmia a marvelous improvement, coincident with an increase of red corpuscles, has been observed under this treatment.

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SATURDAY, NOVEMBER 24, 1894.

EDITORIAL.

MALPRACTICE.

With profit the motto of the great lawyer, David Paul Brown, could be adopted by the medical and surgical profession: "A doctor who knows nothing of law, and a lawyer who knows nothing of medicine, are deficient in essential requisites of their respective professions."

Medical men and surgeons are vitally interested in whatever relates to their liabilities as practitioners. The busy practitioner—and he is generally busy in proportion to his zeal, ability and competency for his work—has little time to devote to the long-drawn-out and very generally confused treatise on medico-legal questions contained in books. The gist of what he wants, what he needs, is, what are his duties and liabilities, where do they begin and where end, what constitutes legal rights, wrongs and remedies as they relate to his profession. It has been too frequent, and yet is, that criminal or civil responsibility for omission or commission has been charged to innocent practitioners.

In a not very distant past so great were

the facilities, so strong the encouragement of lawyers who shared in the spoils, to bring suits for malpractice, that able surgeons would not risk this constant menace by the practice of surgery. They would practice medicine but not surgery, for the reason of the dangers attending its practice. They turned in alarm from the risks of having the accumulations of years of labor wrested from them by ruinous litigation. These suits were more frequent in the past than now. A just and enlightened judiciary and a united profession has largely diminished the number of these cases, instituted, as they about always are, from avarice, malice or ignorance.

There are, however, many prosecutions instituted that never find their way into legal reports: they are only locally heard of through newspapers of narrow neighborhood circulation, and only serve to startle practitioners of a limited section with the perils of medical and surgical practice. The charges of learned judges and the decisions of the higher courts have laid

down the underlying principles of these cases with such clearness and emphasis as to do more than merely discourage their institution, even to condemn them in many instances as vexatious and cruelly unjust. The number of these cases will continue to decrease with the advance of medico-legal knowledge in the professions of both law and medicine, and with the maintenance of a high standard of anatomical, physiological and pathological knowledge in the latter profession.

Of the many embarrassments which the physician has to confront in general practice, there is none greater or that so severely tests professional merit and character, that so endangers reputation and to which he is so averse, as being called into the courts, whether of criminal or civil law.

There is one fact of easy recognition. That is, that more is expected of physicians—that they are more subjected to indiscriminate, ill-considered and unsparing criticism than any other class of men. When errors or mistakes are made they are noised abroad, passed from neighbor to neighbor, from one acquaintance to another, and not infrequently heralded through the newspapers. The attempt is often to hold them legally liable for what no human skill could avoid or human foresight anticipate. Nothing is allowed for the complex character of the trouble with which they have to deal, the hidden influences which baffle the best science.

Latent conditions often give the most skillful of surgeons bad results. For these he is sometimes carried into vexatious and expensive litigation through the counsel of some unscrupulous lawyer ignorant of the principles governing malpractice cases.

Medicine and surgery have emerged from many forms of barbarism and superstition, and so have the law courts from barbarous rulings and decisions in malpractice cases. The real, inherent difficulties of

the profession have grown to be better understood by the law courts. It is recognized that there is very much to qualify results in any given case. An eminent authority condenses much truth in the following: "A source of uncertainty in the practical art of medicine is the difficulty we find in applying to new cases the knowledge we have acquired from observation. This application is made upon the principle of either experience or analogy.

"We are said to proceed upon experience when the circumstances in the new case are the same as in those cases from which our knowledge was derived. When the circumstances are not the same, but similar, we proceed upon analogy, and our confidence in the result is weaker than when we proceed on experience. The more numerous the points of resemblance are, the greater is our confidence, because it approaches the more nearly to that which we derive from experience; and the fewer the points of resemblance, the confidence we feel is more and more diminished. When in the practice of medicine we apply to new cases the knowledge acquired from others, which we believe to have been of the same nature, the difficulties are so great that it is doubtful whether in any case we can properly be said to act upon experience, as we do in other departments of science; for we have not the means of determining with certainty that the condition of the disease, the habits of the patient, and all the circumstances that enter into the character of the affection are precisely the same in the two cases; and if they differ in any one particular, we cannot be said to act from experience but from analogy. The difficulties and sources of uncertainties that meet us at every stage of such investigations are, in fact, so great and numerous that those who have had the most extensive opportunities of observation will be the first to acknowledge that our pre-

tended experience must, in general, sink into analogy, and even our analogy too often into conjecture."

As these difficulties and embarrassments grow to be better understood by courts and by jurymen who come from the body of our communities, the fewer will be malpractice suits, and the more frequent the verdict "not guilty."

The rigid enforcement of the old rule that the practitioner must apply, without mistake, what is settled in the profession, was, up to a very recent date, a fruitful source of suits for malpractice. This rule has been greatly modified under the light of the best modern judicial authorities. Progress in modern medicine and surgery has pushed aside many old practices as useless and in many instances injurious. Especially is there allowed greater room for difference of opinion in the exercise of the art of surgery, for there are usually several ways for doing the same thing, different operations for the same injuries, each operator having a partiality for his own methods, those by which he has secured the best results.

One of the best legal authorities on the law of malpractice very aptly says: "It is not enough for a surgeon to plead that his treatment was that taught him by the ablest members of the profession and the best schools twenty-five years ago, because in a science that is advancing with the rapidity of medicine and surgery—that is, by observation and experience, yearly, and almost daily, correcting errors in practice and abandoning hoary-headed theories, the fallacy of which has become apparent, upon which the practice has heretofore been based—that is receiving auxiliary agencies from all the rapidly advancing sister sciences—there will be new facilities afforded in practice year by year and errors constantly exploded. The authority, therefore, that was at a previous day considered good, and upon which the courts acted, may not at this time be

admitted as the present standard of knowledge required of the physician and surgeon. Old physicians and surgeons cannot, therefore, rely with safety upon their elementary education and what they may have learned in practice. It is absolutely important for the protection of the patient as well as of the surgeon, if he assumes the responsibility of performing an operation fraught with so great interest, that he should make use of every reasonable means of knowing what is considered the best treatment at the time of the operation—not what would have been the proper course twenty years ago. A medical man cannot, with any safety or propriety, practice year after year without keeping himself informed as to the improvements of his science, especially if he practice surgery."

The responsibilities and liabilities of the profession are not in any strict sense diminishing; they broaden with the light and advance of the profession. The law keeps pace in its requirements.

Responsibility is measured by the professed ability to accomplish. Where a large price is demanded and paid for services, there is a corresponding increase of responsibility, there being an implied claim of superiority of knowledge and skill over others. And this responsibility is only reduced or relieved by the operation of causes or influences beyond the physician's or surgeon's detection, or over which he has no control.

Penal laws are made to protect society against the charlatan and the ignorance of the quack. For an educated, reputable and honorable physician to compromise such cases is an implied consent to be classed with those professional pests; is to compromise personal honor and the honor of the profession. Our judicial tribunals will do no more than that which every educated and honorable physician and surgeon will demand, that the severest judgment of the law should be inflicted upon

those who ignorantly or recklessly trifle with health and human life.

Every detail of professional conduct, upon which is founded the good name and repute of the physician and surgeon, receives the severest of judicial scrutiny in all malpractice suits. And there is accountability in damages, measurable with the extent of the evil results, for ignorant, careless or unprofessional conduct. One of the ablest of English surgeons says: "Genius for our art may shine out on great occasions, and brilliant devices contend against remarkable deviations from health, but *conduct* is required of us all. The word *conduct* has a wide interpretation; it appeals to the application of the humanities of life, as well as the exercise of skill and industry in the application of our best resources in the treatment of disease."

The law regards the undertaking to be only for the use of proper means. It is not regarded that the cure is in the physician, but is largely dependent upon the constitution of the patient and the influences of causes beyond his control. In one of the oldest reported English cases (1767) the Lord Chief Justice said: "Ignorance is rashness. A physician may intend well and yet his conduct be so exceptional that he must be held liable criminally when life is lost by such conduct, though he did not intend it at the time."

Though extraordinary skill is not required when the act to be done depends on the skill of the operator alone, the law will imply an engagement to use that skill and to produce the desired result, from the employment of one professing it and holding himself out to the world as having it. The errors for which he may be held liable may be either of omission or commission. He is not responsible for those disasters which are not the result of his own conduct, or for those the result of the refractory conduct of the patient, upon whom rests the collateral duties of sub-

mitting to the requirements of his professional attendant.

He is liable for any unnecessary pain or delay occasioned by the application of unskillful and improper remedies. Amputations, fractures and dislocations, and deformities arising therefrom, are made the grounds of many malpractice suits.

In the cases of amputation a legal text writer puts the subject in strong form: Under this state of things one of the most difficult and close questions of surgery arises—a question upon the solution of which depends the life of the patient, perhaps, and possibly the reputation of the surgeon—to decide which question correctly calls into requisition correct logic, close observation and extensive surgical knowledge; and that is the question of *amputation*. In these difficult cases the result, let it be for or against amputation, will generally be critically questioned. The loss of a limb, on the one hand, will raise the question of the propriety of the amputation long after the real condition that was supposed to demand it is forgotten by all, perhaps, except the surgeon himself. If amputation is overruled and the patient dies, the surgeon is blamed for the sad result. These cases are fruitful sources of litigation. If the limb was amputated, it is said there was gross carelessness or recklessness and a want of care and skill—that the limb might have been saved had proper effort been made at the right time. If the surgeon gives to the patient the benefit of a doubt as to the propriety of amputation in a close case, and after long and vigilant watching surmounts great difficulties, saves the limb in a condition to be of great use to the patient, yet, it not being a perfect cure, then the surgeon is said still to be at fault, notwithstanding the injury was so severe that the question of amputation hung evenly in the balance for a time, and he is sued.

Such cases are familiar to the profession.

ABSTRACTS.

THE FATE OF THIERSCH SKIN GRAFTS.

Goldmann (*Beitrage zur klinischen Chirurgie*) says that when a wound has been successfully grafted after the manner of Thiersch, healing occurs without the formation of granulations and with scarcely any cicatricial contraction. After a few months the new skin is reddish and somewhat glistening; it is on the same level as the surrounding skin; it is more or less movable on its bed and frequently possesses both tactile and thermal sensibility. When the changes in the grafts are examined in detail, it is found that in the first instance there is some desquamation of the horny layer, while at the same time there is active proliferation in the middle layers of the epidermis; ultimately the epithelium as a whole is thin and the papillæ are of small size. An entirely new vascular network is formed beneath the epidermis which nourishes the latter and persists for years, which accounts for the redder tinge of the new epidermis and differentiates it from the surrounding skin. The grafted skin reaches the level of the surrounding skin surface more rapidly when the grafts are placed on a vascular bed; in the forehead this level has been attained in four to six weeks. It fails to attain this level when the grafts are placed on a granulating surface, as in the latter case there will be cicatricial tissue beneath the new skin. After an interval of months the mobility of the grafted skin is so developed that it can be lifted up in folds from the tissues beneath. Return of sensibility occurs sooner at the margins than at the center of the grafted area, and where large gaps have been filled up it may not return at all.

In discussing the anatomical basis of these clinical facts, the writer points out that the normal mobility of the skin on the subjacent tissues depends on the network of elastic fibers which connect the former with the latter. By adopting a special stain for the elastic fibers, he was able to prove that these were abundantly formed in the true skin beneath the grafts, and that they were prolonged right up to and into the papillæ, so as to end immediately beneath the epidermis. The pres-

ence of the new elastic fibers, derived from the mother skin, gives the grafted skin greater resisting power, so that it is able to withstand traction and pressure. Inasmuch as granulating and cicatricial processes hinder or prevent this growth of elastic fibers into the graft, we are able to understand why the results obtained are so much better when the grafts are placed on a recent wound than on one which is granulating. It is also to be noted that the development of the elastic network explains the absence of cicatricial shrinking of the transplanted skin. The new vessels which are formed from the mother tissue have a great influence in raising the grafted area to the level of the surrounding skin. In this they are assisted by the formation of elastic fibers and of young connective tissue. In a successful case there is no scar tissue to be seen. The return of sensibility to touch, pain and temperature is explained by the formation of new medullated nerve fibers, which are probably also derived from the mother tissue and which the author has traced into the grafted skin. This method of grafting succeeds at all ages to an equal degree.

Rational Treatment of Appendicitis.

Ashton (*Denver Medical Times*) holds that it is impossible, with our present means and methods of diagnosis, to know the nature of the pathological changes taking place during the course of an attack of appendicitis.

That all forms of appendicitis are dangerous to life, as it has been demonstrated that germs pass through the walls of the appendix without the presence of either ulceration or perforation.

That surgical interference is indicated in primary and secondary attacks of appendicitis so soon as the diagnosis is clear.

That surgical interference is not advised during an acute attack of appendicitis, except when grave symptoms intervene, unless a competent surgeon is at hand. Under these circumstances the case should be operated upon after the so-called recovery.

PATHOLOGICAL FICTION.

Among physicians "The Heavenly Twins" is looked upon not as a literary venture to be judged by artistic standards, but as a readable presentation of symptoms which suggest definite pathological condition.

"Ships That Pass in the Night" is admirable as a pulmonary record, and "The Yellow Aster" affords an insight into the psychic phenomena resulting from neglect of natural instincts and desires which, surviving the appropriate period of life, subsequently assert themselves in the form of belated maternal love and *ex post facto* philoprogenitiveness.

As to Miss Harraden's book, while we find it useful in the profession for its glimpses into refined sick-room conversation and pulmonary persiflage, we regret, from a medical point of view, that after giving such a careful history of the heroine's case, the author permitted her to be killed by an omnibus. It is humiliating, after following attentively the course of the disease and the method of treatment, to be told that an omnibus was the cause of death and to be dismissed without hearing the result of the autopsy. Moreover, we found her style so delightful that we would have gladly followed the hero to the last hemorrhage, but that, too, was denied us.

Sarah Grand's cases are open to the same objection of incompleteness. She starts out enticingly with such a character, for instance, as Edith's husband, but leaves the later and more interesting phases of his pathological history untold. As a general rule, however, she comes up to the requirement of modern fiction; the cases of most of her characters can be diagnosed; and with a little more clinical experience we have no doubt that her future novels will be above reproach.

There is danger lest in the first stages of the medical movement in literature young writers will attempt to cover too wide a pathological area in their novels and forget the inexorable law of specialism that obtains in the medical profession itself.

To introduce a paretic or stasic patient in a dermatological novel would not only destroy the unity of the story, but would justly expose the author to a suspicion of a want of thoroughness. If the writer has determined upon appendicitis as his

plot he should not waste his energies upon irrelevant diseases in his minor characters. He could gain variety by introducing other forms of enteric disorders, but should never exceed the limits of the abdominal region. Until he has had a thorough medical training, we think the course of a single disease should supply him with all the medico-literary material that he can handle in an intelligent manner. A blow on the head supplied the author of "God's Fool" with all the plot that he needed; Ibsen's "Ghosts" is simply the dramatization of an inherited brain disease, and many a successful short story is based upon a case of simple mania with delusions.—*Amer. Medico-Surg. Bull.*

Acute Lacunar Diphtheria.

Dr. Koplik, of New York (*N. Y. Med. Jour.*), proves that many cases of so-called "lacunar" or "follicular" tonsillitis are in reality diphtheria. He insists upon animal experiments as the only positive proof of the virulence of the Loeffler bacillus. He divides cases into three clinical groups: 1. The course is mild; patients showing little or no disturbance, appetite is good; they are up and about; throat symptoms are absent or only slight; examination shows a general hyperæmia and enlarged tonsils; no membrane is found, but only here and there a yellow spot showing the opening of a follicle; lymph nodes at right angle appear possibly enlarged. Next day the child is apparently as well as ever. Koplik demonstrates the utter fallacy of such assumption of recovery. These apparently harmless plugs are the focus of virulent bacilli, which have been extracted from the same sites up to even three weeks after the alleged recovery. 2. Here the symptoms are distinctly more severe than in group 1, both locally and constitutionally; the children are quite sick, and the general clinical course is like that of the "streptococcus" sore throats; a soft, yellowish fibrinous mass exudes from the lacunæ, though there is no true membrane on the tonsillar surface proper; nodes are enlarged. 3. The cases of the last group show a malignant course from the outset. The lacunar gives way to a more severe type into which the nasal mucous membrane may be drawn.

SOCIETY REPORTS.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of October 12, 1894.

SECTION ON GENERAL SURGERY.

Prof. William S. Forbes, by invitation, exhibited his improved lithotrite and demonstrated the method of testing and measuring the strength of lithotrites, as well as the measured crushing resistance of vesical calculi. He said:

MR. PRESIDENT AND GENTLEMEN: I appreciate the compliment the Executive Committee of this body has extended to me in inviting me to appear before you this evening and explain the new lithotrite which I placed before the American Surgical Association at Washington in June last. It may be well to commence by stating the origin of this lithotrite. I had five cases of stone in the bladder, which came to me in a group; there was a man of eighty years, a child of three, a boy of seventeen, and two adults between forty-five and fifty. After I had finished crushing the stones and the patients had returned to their homes, I thought of the large number of stones that were relegated to the knife—the large, hard stones—and it occurred to me to attempt to improve the strength of the lithotrite in order that its efficiency might be extended so as to embrace these large and hard stones. This consumed so much of my time that it attracted the attention of my son, who asked me the object of my study. I told him I wanted to improve the instrument so that it would crush the largest and strongest stones in the human bladder, which, by general consent, were now relegated to the knife. He asked me how strong these stones were. I said no one knew. He replied that the crushing resistance of the stones must be known in order to properly design a lithotrite for crushing them. On reflecting upon the problem my son made a machine by which both the crushing resistance of a stone and the strength of the lithotrite could be measured. The result is before you in the apparatus now exhibited.

Upon testing different kinds of lithotrites with this machine we were able to

find out all the weak points. The result was an entirely new instrument, which will be explained.

My first experiment was made on a fragment of stone taken from the bladder of a horse, which broke one of the usual form of lithotrites, the septum of male blade giving way. I obtained as many specimens as I could in order to measure the strength of different varieties of stones. My colleagues at the Jefferson College loaned me the collection of stones from that institution, and friends loaned me some—their names are recorded in the table—so that I succeeded in getting together a total of one hundred and eighty-four stones, as follows:

Oxalate of lime.....	55
Phosphate of lime.....	64
Uric acid.....	27
Oxalate and phosphate mixed.....	15
Uric acid and phosphate mixed.....	8
Uric acid and oxalate mixed.....	7
Oxalate, phosphate, and uric acid mixed.....	4
Combustible, requiring further examination...	2
Carbonate of lime and oxalate.....	1
Cystin	1
Total.....	184

Attention is called to the large percentage of oxalate of lime calculi in the above table. This is accounted for by the fact that these have been better cared for by their collectors, when stones less rare were lost or not kept.

With regard to the strength of a stone in its different diameters, I found by experiment that for the most part the short diameter of the stone is the strongest. It seems strange that an oval vesical calculi should have greater resisting power in its short than in its long axis. Perhaps the arrangement of its superimposed layers would account for this.

The increased resisting power of some specimens is to be noticed. Thus in a smooth oxalate of lime stone weighing 116 grains, it took 162 pounds to break it, or nearly a pound and a half for each grain. (This stone is accompanied by a slip of paper stating that it was taken from a

child eight years of age.) Now compare this stone with another, weighing 915 grains (1 ounce and 435 grains) and taking 406 pounds to crush it. Now, if the strength of this stone had increased with its size and it had taken as many pounds in proportion to crush it as the first stone of 116 grains, it would have required an enormous force (about 1,280 pounds).

The truth is that as a stone increases in volume it does not require as many pounds per unit of weight to break it as a small stone. I wish to state that this second stone, taking 406 pounds to break, and now weighing 1 ounce and 435 grains (915 grains), was taken out by lateral lithotomy in 1853, and weighed at that time 955 grains, showing a loss of forty grains, owing to drying. I make no doubt that in this stone the colloids have hardened like cement, and increased the crushing resistance of the specimen. Since our instrument has broken the hardest of these dried stones, I have no doubt that it will break any to be found in the human bladder.

My son, Mr. John S. Forbes, will explain the testing machine and the construction of the new lithotrite.

MR. JOHN S. FORBES: This apparatus now exhibited was constructed to hold a lithotrite and measure its strength as well as to measure the crushing resistance of vesical calculi as crushed with a lithotrite. The resistance is shown until it broke and the number of pounds pressure when it broke. The apparatus consists of a rigid frame of wrought-iron pipe, upon which is an adjustable cast-iron bridge. The instrument to be tested is placed in the apparatus, and its handle is firmly grasped by a universal brass clamp. The screw-handle of the lithotrite is held in an independent four-jaw chuck, attached to the end of a rotatable shaft, turning on ball bearings, for reducing friction to a minimum. The shaft has also an end movement of about 1½ inches. Upon the middle portion of the shaft and between the ball bearings is a flat, grooved brass wheel, so arranged that it may be turned independently of the shaft or locked to it. Secured to the wheel is a cord which passes over an overhead grooved pulley, and is provided at its dependent end with a pan for the reception of weights. The friction due to turning the wheel and its

accompanying parts and weight of the pan is eliminated by attaching a small bottle containing shot. The operation of the apparatus is as follows:

A lithotrite is placed in position and its cylindrical handle clamped with the brass clamp on the cast-iron bridge. The screw-handle is secured in the four-jaw chuck on the rotatable shaft, and the whole gotten into perfect line and accord. By locking the instrument and turning the wheel over to the right, the male jaw of the lithotrite is propelled forward, together with the shaft, chuck, and wheel, and by reverse motion the instrument is unlocked and the male jaw may be slid backward or forward, just as the instrument is operated in the hands. Having the instrument thus held, we can measure the resistance of a calculus grasped between the jaws of the lithotrite, and, secondly, we ascertain what pressure may be obtained between the jaws without injury to them or any other part of the lithotrite. A dynamometer is arranged so as to measure progressively the amount of pressure exerted by the jaws of the lithotrite by successive addition of weights in the pan. Knowing the relation or coefficient thus established, the stones to be tested are placed in the lithotrite, and the amount of force required to break them established. Theoretically, the power might be estimated by the following formula: $P = p \times c \times w$, in which P = the pressure between the blades; p = the pitch of the screw in number of turns per inch; c = the circumference, in inches, of the wheel of testing apparatus; w = the weight in the pan of the testing apparatus.

Thus it will be seen that the forces are inversely as the paths.

Now this will give us the theoretical pressure between the jaws, but we must consider the friction in the lithotrite arising from the screw-thread and the tendency of the male blade to buckle. In order to obtain this friction we place a dynamometer or other pressure-recording instrument between the jaws, and apply weights to the pan of the testing apparatus. In this way we will get the coefficient or ratio of friction in the lithotrite to the weight applied for various pressures between the jaws. We can therefore lay out a table of actual frictions for each pressure. The formula must now have the factor of friction introduced, and it may be expressed thus:

$P = (p \times c \times w) - (F w)$, where in F = the friction per pound corresponding to the weight w . The dynamometer is now removed and we are ready to measure the crushing resistance of any given calculus. A table of crushing resistance of vesical calculi was obtained in this way. In order to obtain the second and third objects, viz., the pressure which may be obtained between the jaws of the lithotrite without injury to any part of the instrument, and what pressure and where the instrument will first give way, we again make use of the dynamometer and apply weights to the pan of the testing apparatus until something happens, for something is bound to occur if we apply enough weights. The dynamometer ceases to move when this event takes place, and we read the ultimate pressure which the now useless lithotrite was able to record. In this manner the table of the strength of various lithotrites which is before you was obtained.

This new lithotrite somewhat resembles the Civiale, Thomson and Bigelow instruments in general shape, and in having a movable male blade. As regards the mechanism and construction the Forbes instrument is entirely different. In the first place the cross-section of the female blade, of usual construction, the groove is shaped so that when great force is exerted the tendency is to spread apart the sides of the groove, allowing the male blade to rise up. In the new lithotrite the groove has a V-shaped or dove-tailed flange on each side, so that this accident cannot occur. The shank is stronger, the bulk of the metal being put above the slot. The septum of the male blade is unusually thick. The shoe of the female blade is spread so that it will not catch the wall of the bladder, and also to allow the *débris* to come out. The surface of the male jaw presents a median cutting edge beveled to each side, with two cross-ridges on the surface to prevent bursting a stone and injury to the bladder by flying fragments. The spur rises to an unusual height on the male jaw for greater strength. The handle of the instrument is entirely new. The instrument is unlocked by simply turning the handle half a turn to the left, which releases the male blade; it is immediately locked by reversing the motion of the handle. The thread on the screw has the advantage of increasing the

power and of giving the stone time to break without unduly straining the instrument.

The handle or screw mechanism belongs to what is known as the interrupted screw type. It consists of an internally screw-threaded barrel having the threads cut away the entire length of the barrel at alternate spaces of ninety degrees each.

This screw-barrel has an end movement in the cylindrical handle of about one-sixteenth of an inch. Working in this barrel is a pair of screw-blocks, likewise having their screw-threads interrupted at alternate spaces of ninety degrees each. Thus the screw-blocks may be slid up and down the barrel without the threads engaging. When it is necessary, however, to apply the power, the screw-blocks are turned by means of the screw-handle, and the threads engage immediately. One screw-block is rigidly keyed to the screw-handle shaft, and the other is so formed that it may have a motion of ninety degrees around the screw-handle shaft. Thus when the screw-handle shaft is turned to the right the screw-block that is rigidly attached to the shaft is brought into mesh with the threads of the screw-barrel, and a further turn of the handle of ninety degrees brings the rotatable screw-block also into mesh. The screw-threads on these two blocks are, therefore, now no longer interrupted, relatively to the barrel, but continuous, and we have in substance a solid plug, or screw-block, engaged with the threads in the screw-barrel. As long as the screw-handle is turned to the right this state of affairs continues, and the male jaw is propelled toward the female jaw. After the calculus is crushed the instrument may again be unlocked and the jaws separated by turning the screw-handle to the left until it stops. This left-hand motion is never more than half a turn. Owing to the sixteenth-inch play of the screw-barrel in the cylindrical handle it readily adjusts itself to engage with the thread of the screw-block, and the calculus is, therefore, never dropped in locking the instrument. The screw-handle has been made larger than heretofore, because it aids the easy and gentle manipulation of the instrument. The shape of the handle is also different, and calculated to serve its purpose. Being made of very thin sheet-metal it is at once strong and as light as the lightest handle

now employed, which is, perhaps, the soda-water-fountain wheel of Thomson or Civiale. I have designed a mechanism which may be placed within the hollow screw-handle, whereby the operator can see what power he is exerting between the jaws of the lithotrite. This mechanism, though it will add a trifle to the weight of the lithotrite, will not increase its size in any part. To sum up this instrument, it may be likened to a chain in which each link is of equal strength, and that means the maximum strength for a given size and weight, or, in other words, a correct disposition of metal.

On testing this instrument it was found that up to six hundred pounds it would not suffer any injury; the blades yielded a little at this point, but regained their original position by the natural elasticity of the metal when the strain was removed. Above this point they did not spring back. The extremity of the jaws were grasping the dynamometer when this occurred. But it was found that this amount of pressure was more than could be obtained by the hand, and therefore this accident would not occur in an operation. Moreover, it was found that the blades closed completely and could be withdrawn from the bladder. The greatest power exerted simply by the hand with this instrument was five hundred and forty pounds. While not sufficient to injure the lithotrite, it is more than sufficient to break any stone occurring in the human bladder.

The screw-thread is large, but is a slow thread. It was found that a stone might resist a pressure for a moment, but then it would break without increasing the force. There is an advantage, therefore, in a slow thread, as it gives the stone time to break, as well as increases the power. There is a great loss of power in friction in all lithotrites. In this instrument the friction is greater, but actual amount of force nearly double that exerted by the ordinary patterns with which it has been tested and compared.

DISCUSSION.

DR. MARTIN: It seems to me that this lithotrite has many points of advantage over all others. The handle is easy to grasp. It is not liable to break. The shape of the jaws makes it not easy to block up. Its chief advantage, however, is the easy way of engaging the stone and

of going on to crush by simply turning the handle. The surgeons present should express their gratification and thanks to Mr. Forbes for his ingenuity and skill.

DR. WILLIAM J. TAYLOR: I think the instrument the best I have seen.

DR. G. G. DAVIS: If I understand correctly, the screw of this instrument has a narrower thread and exerts more power than the other instruments. As the pitch of the screw increases the amount of power decreases.

MR. J. S. FORBES: Technically expressed, the fact is generally stated that "the power is inversely as the paths."

DR. DAVIS: My point is this: if the surgeon is able to exert more power with this instrument, then it should be more liable to break than other instruments with which less power can be exerted.

MR. FORBES: The instrument is made stronger than the others.

DR. MARTIN: I would like to ask about the grasping of the smaller fragments. From the shape of the male blade, it strikes me that it would not be so liable to engage the small fragments as the Bigelow instrument.

MR. FORBES: It does the work and crushes the stone and the fragments as indicated by this specimen of uric-acid stone.

DR. WM. S. FORBES: Dr. Martin has asked a very pertinent question to the subject of the discussion. I have used this instrument within the last five months ten times. I broke this stone with the 33 instrument. I did not wish to pulverize any more than to permit the pieces to come through the canula. I only wished to crush so that the fragments would be a little smaller than the canula. Any further crushing is a work of supererogation: the patient is kept longer under ether, the instrument is kept longer in the bladder than is necessary, and the instrument is subjected to additional strain. The object is to get the stone out of the bladder, not that it should necessarily be pulverized.

The object of this instrument is to extend the field of litholapaxy, and at the same time a more convenient and useful modification has been made in the mechanism of the lithotrite. By changing the shape of the jaw and carrying the spur a little higher I have increased the power to grasp large concretions, and by widening the shoe we avoid impaction and, as I have

seen, splitting the penile urethra through its entire extent by a Thomson instrument. I know of such a case, a man, seventy-six years of age; five years later his wounds had not yet healed.

In reply to Dr. Davis, I would call his attention to the increased strength of the septum and of the female blade, as well as its oval form and novel groove, by which a common accident with other instruments is avoided; I mean spreading of the slot and permitting the male blade to escape.

Dr. Le Conte reported

THREE CASES OF ABDOMINAL SECTION FOR
TRAUMATISM.

(See page 716.)

Dr. Steinbach reported a case of

GUNSHOT WOUND OF ABDOMEN AND LUNG.

(See page 719.)

Dr. T. S. K. Morton reported a case of

GUNSHOT WOUND OF LIVER AND LUNG.

(See page 720)

DISCUSSION.

DR. EDWARD MARTIN: Aside from other considerations the fact is worthy of note that Drs. Le Conte, Steinbach and Morton have been willing to report cases of cœliotomy for gunshot wound involving the abdominal contents, in which the result was not always favorable. It is certainly the exception to find any but the successful cases reported. Hence the results of a statistical study of this subject are most misleading. Thus in the admirable tabulation of Dr. T. S. K. Morton, published some years ago, the percentage of recovery after surgical intervention was so favorable that the inference as to the duty of every surgeon to operate at once on all these cases was direct. When all the cases operated on in a given section, New York, for instance, were collected, including those which were not published, it was found that the mortality was about the same for the cases treated expectantly, *i.e.*, where operation was performed.

Reclus and Nongues, exploiting their sides of the subject, *i.e.*, conservative treatment, deduced as the result of their statistical study the fact that the mortality after penetrating gunshot wounds of the abdomen is about twenty-five per cent. This is manifestly misleading, the result

being due to the fact that only the rare successful cases of conservative treatment are published.

It still remains an open question as to whether a patient with a penetrating gunshot wound of the belly has not a better chance for recovery without operation, unless there should happen to be present a skilled abdominal surgeon armed with all the appliances of his art.

The importance of this consideration of the question rests upon the fact that the country doctor or country surgeon whose experience has been limited, and who is unable to secure the timely help of a specialist, need not feel that in treating penetrating gunshot wounds of the belly conservatively he is unfaithful to his trust.

As to the diagnosis of these cases, *i.e.*, the diagnosis of penetration, unless this is absolutely assured by leakage of feces or gas, for instance, or by bloody vomiting, or by purging of blood, or other pathognomonic symptoms, or by passing of the probe into the abdominal cavity, the fact of penetration should be definitely ascertained by exploratory incision in the line of the bullet wound before proceeding to a formal cœliotomy in the middle line.

The importance of bearing this in mind was well illustrated by a case which I saw in consultation with Dr. Edward Bidwell, of Vineland, N. J. The patient was a very fat woman who had been shot from directly in front with a 32-caliber pistol. The wound of entrance was a quarter of an inch below the level of the umbilicus and two inches to the left. The patient was vomiting, had a rapid pulse, was tympanitic, complained of peritoneal tenderness upon the left side of the abdomen. The probe passed obliquely downward and backward through about three inches of fat and stopped at the muscles. Apparently the case was a fairly clear one of penetration and visceral wound. Exploratory incision along the track of the ball showed that it ranged downward and backward, penetrated the abdominal muscles one and a half inches above Poupart's ligament, grazed the peritoneum, and buried itself in the muscles of the pelvis. The wound was cleaned and closed and the woman was purged. In this case cœliotomy might have proved most unfortunate.

For flushing out the abdominal cavity the normal saline solution is very much better than plain distilled water. The

latter causes a primary blanching and a secondary acute hyperæmia, as shown by repeated experiments on dogs by Dr. Hobart Hare and myself. The normal saline solution is perfectly bland and un-irritating.

As to the method of closing the belly wound there is wide diversity of opinion. Perhaps there is a growing tendency to first stitch the peritoneum with a continued silk suture, then complete the closure stitches taken through fascia, muscles and skin. In any event, except for buried sutures, silkworm gut should be used.

DR. G. G. DAVIS: In a gunshot wound of the intestine the ball oftentimes perforates both sides of the wall, and it makes so many openings that, as Dr. Le Conte has pointed out, the most careful examination is necessary in order that none may be overlooked. This takes so long that, in order to save time, in some cases it would be better to resect as does Murphy with his button, in preference to other methods, such as stitching each separate wound and especially circular enterorrhaphy.

DR. JOHN B. ROBERTS: Dr. Martin has spoken of the possible bad results of gunshot wounds of the abdomen, and said that the mortality is not greater in such cases when left to nature with good nursing than when treated by modern surgical methods. Of course it is difficult to decide this, but my own impression is that it is far better to open the abdomen in all penetrating wounds. If the operation be done by modern methods the result is, I believe, much better than can be obtained by expectant treatment. Under the old methods nearly all penetrating wounds of the abdomen caused death. I recall, however, one case of gunshot wound that recovered when such abdominal operations as we now perform were unknown. The patient was treated expectantly and did not die. His recovery, however, was regarded by the surgeon who saw him as very unusual. I, personally, am strongly in favor of section as soon as it is proved that the ball has entered the abdominal cavity. I believe in cutting down upon the bullet track to establish the fact that the missile has entered the abdomen, as was done in Dr. Steinbach's case, and then making an incision in the middle line.

Dr. William J. Taylor reported a case of

FEMORAL EPIPOLOCELE IN A WOMAN— RADICAL OPERATION.

I wish to present a specimen of omental hernia, removed to-day with the assistance of Dr. T. S. K. Morton. The history is briefly as follows:

A woman, aged forty-six years, had first noticed a lump in her right groin twelve years ago, but it gave no trouble until about four or five months ago, when it enlarged and became very painful. She was in the country at the time, and went to bed and applied poultices to the swelling. In a few days she was much improved, the pain and swelling relieved, but the mass did not disappear entirely. She came to town, and I saw her first ten days ago. There was a good deal of swelling above Poupart's ligament and in the inguinal canal on the right side. I was in doubt whether it was a new growth or a hernia. With rest in bed and care the amount of inflammatory thickening was very much reduced. To-day I made an incision over the tumor and came down upon a very hard tense sac, which easily dissected away, and I came upon this mass just above the internal inguinal ring. I then opened the sac and drew out the omentum until I came to a healthy portion, and put a ligature around it and removed this mass. The sac was dissected free from the adhesion and ligated with silk. The whole mass showed evidence of long-standing inflammation. When I came close to the abdominal ring I discovered that it was a femoral hernia. I drew the edges of the canal together with two sutures, without injury to the artery; during the operation only one small vessel required ligation. The specimen presented is the mass of omentum, which is glued together by inflammatory adhesion and a portion of the sac.

Pregnancy at Fifty-nine.

Dr. Depasse reports that he was called to an aged-looking woman with white hair, supposed to be suffering from a large uterine fibroid, whom a careful examination proved to be pregnant. She was confined of a boy at full term and was able to nurse him. She weaned him on her sixtieth birthday. She was a widow with a forty-year-old married daughter.

CURRENT LITERATURE REVIEWED.

IN CHARGE OF ELLISON J. MORRIS, M.D., AND SAMUEL M. WILSON, M.D.

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES

for November. Dr. Charles K. Mills, Professor of Mental Diseases and of Medical Jurisprudence in the University of Pennsylvania, etc., contributes a paper entitled

The Relations of Infectious Processes to Mental Disease.

in which he states that conclusions may be drawn as follows:

1. Specific infection must be included among the causes of mental symptoms and diseases which precede, accompany, or follow febrile and other infectious disorders.

2. Much negative evidence can be adduced in favor of acute delirium or acute mania being due to toxæmia—such evidence as is afforded by autopsies which reveal neither gross nor histological change lesions; and in these cases the toxæmia probably overwhelms the patient before the production of meningitis or other disease.

3. Analogies with nervous affections which are known or believed to be of microbic origin—such as multiple neuritis, myelitis and chorea—favor the new view that insanities with similar or related phenomena and lesions are also microbic in origin.

4. The evidence afforded by careful bacteriological investigation of cases of acute insanity is thus far meager, and shows that various micro-organisms may induce the same or similar types of mental disease.

5. The mental disorders of pregnancy and the puerperal state are probably, in a considerable proportion of cases, toxæmic, without reference primarily to childbirth; but it cannot be regarded as proved that a bacillus of either eclampsia or puerperal mania is the sole cause of these affections.

The Nature and Treatment of Leprosy

is discussed by R. H. L. Bibb, M.D., of Saltillo, Mexico, the author coming to the following conclusions:

1. That leprosy is a specific disease, due to the presence of the lepra bacilli.

2. That leprosy is influenced by race, climate, soil, food, etc., only in so far as these environments tend to enervation on the one hand or to physical well-being on the other.

3. That experiments have not demonstrated leprosy to be inoculable on man or beast.

4. That leprosy is hereditary.

5. That leprosy is contagious, infectious and communicable under conditions not yet understood.

6. That leprosy is both mitigable and curable.

7. That chaulmoogra oil is a drug of unquestionable value in the treatment of leprosy.

8. That leprosy may be completely eradicated from the list of human ills.

J. W. Markoe, M.D., and Samuel W. Lambert, M.D., Attending Physicians to the Society of the Lying-in Hospital of the City of New York, contribute a

Study of Methods of Obstetric Instruction.

After reviewing briefly the history of obstetrics and the various methods of teaching in use in Europe and America, the authors give the following as the outline of an ideal course of obstetrics:

1. Theoretical lectures as given in the United States.

2. Recitation system as practiced in the same.

3. Manikin course as given in France, Germany and very generally in America.

4. Touch course on pregnant women as universally conducted in France and Germany, at present beginning to be used in the United States.

5. Practical work in hospital wards, not limited to simple observations, but each student actually to carry on the labors and their subsequent treatment under rigid supervision.

6. Clinical lecture on the same material as given in France and Germany, and almost absolutely neglected in America.

7. "Polyclinic" or out-patient department as carried on in England and partially introduced into the United States.

The general result to be gained is: First, as thorough a theoretical knowledge as possible by the first three theoretical courses just outlined above. Secondly, the student should receive as complete a practical application of this knowledge as may be by seeing experts conduct confinement cases. Then, by doing the same under expert direction in hospital wards, where every facility for cleanliness and nursing is at hand, his flagrant errors would be corrected and his unskilled hand begin to appreciate minute details. He should finally put in practice in the tenebrae, but under careful supervision, the principles he will have learned. This object should be accomplished by the four final practical courses of the ideal system already outlined.

The questions involved in any plan for instructing midwives are similar, but infinitely more difficult to answer. The deepest foundations on which to build up a system are absolutely wanting. The first help should and must come from the State. A law compelling midwives to give evidence of some little knowledge to the local boards of health would compel these women to seek an elementary education in midwifery. If the demand should thus be created the proper schools would soon follow. The raising of

the standard of requirements for registration would then become a mere matter of subsequent detail.

The remaining papers in this issue are "A Contribution to the Localization of the Mus-

cular Sense," by Dr. M. Allen Starr and Dr. A. J. McCosh, of New York; "Tuberculosis of the Fallopian Tubes," by Charles B. Penrose, M.D., and H. D. Beyea, M.D., of Philadelphia.

PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M.D.

MEDICINE.

The Cause of Death from Chloroform.

Heart weakness is so generally assumed to be the first warning of danger in chloroform narcosis that during the anesthesia the pulse is more closely watched than the breathing. That chloroform has no direct action on the heart, however, and that it kills by inducing respiratory paralysis, is the conclusion of Surgeon Lieutenant-Colonel Lawrie, as reported in the *British Medical Journal* for July 7th. At a recent meeting of the Royal Medical and Chirurgical Society he contended that the experiments, including those performed under the auspices of the Hyderabad Commission, proved that death from chloroform was due to respiratory failure, and that the practical point to remember during its administration was that the condition of the pulse was quite subsidiary, but that the state of the respiration should be closely watched. Chloroform being an irritant, protoplasm is irritated and destroyed by either its liquid or its vapor. When it is injected into the substance of a muscle, such as the heart or the biceps, motion is arrested in the same manner as it is by hydrochloric acid or any other irritant. He argued that in poisoning from the inhalation of chloroform this irritant action could no more take place in the heart than in the biceps, and hence might be ignored in considering the clinical question of accidental death under this anesthetic. In his experiments with animals, chloroformed blood sent to the heart alone produced no effect whatever, but when it was sent to the brain alone the narcotic acting on the brain centers produced its usual effects. From tracings of the pulse and of the breathing, he demonstrated that chloroform anesthesia without respiratory complication was free from risk.

From much experience with chloroform, Mr. Horsley also was convinced that it was the arrest of respiration which resulted in death, and that in the majority of cases of danger inversion of the patient and artificial respiration would cause recovery. Mr. Gaskell and Mr. Shore agreed that respiration failed first, but held that chloroform had a direct action on the heart also. Dr. Lauder Brunton's experience was that chloroform always paralyzed the respiratory center before enough had been taken to paralyze the heart. A number of the accidental deaths

were due, not to the chloroform, but to the operation itself, to asphyxia, or to noxious substances circulating in the blood. Mr. Lawrie concluded by stating that he had found it impossible to teach careless men to administer chloroform safely, and that heart failure might be indirectly produced by stimulation of the vagus through irregular breathing. He had noticed no difference in the effects of chloroform on different races or nationalities. In seven hundred cases of chloroform narcosis the pulse had been carefully watched, but it had given no reliable indications of danger.

On the Use of Sublimed Sulphur as a Local Application in Diphtheria.

C. H. Baumler again calls the attention of the profession to the value of the local use of sulphur in the treatment of diphtheria. He has used it in his hospital practice for many years, and thinks its effects infinitely better than those of any other local application which he has used. He was first induced to use it by the recommendation given to it by Professor von Liebermeister ("Special Pathology and Therapeutics," Leipzig, 1885, vol. i, p. 232), who advises it to be applied abundantly in form of the dry powder to the diseased mucous membrane by means of a soft camel's-hair brush, the application to be repeated every hour or two hours, or only three or four times a day, according to the severity of the case. The action he considers merely a local one, and he thinks its principal field of usefulness will be diphtheria of the fauces, where it can be applied directly and abundantly. He is unable to give at the present a scientific explanation of its action, but an extensive experience of seven years justifies him in placing considerable confidence in its usefulness and recommending it again to the use of others.—*Brit. Med. Jour.*

The Inexorable Facts of Heredity.

"I have drunk whisky every day for thirty-five years," remarked a gentleman of sixty, rather proudly, "and I don't see but I have as good a constitution as the average man of my age. I never was drunk in my life." He was telling the truth, but to learn the whole truth you would have to study his children. The oldest, a young lady, had perfect health;

the second, a young man, was of remarkably nervous and excitable temperament, as different from his phlegmatic father as possible; the third, a young lady of seventeen, was epileptic, and always had very poor health. Did the father's whisky-drinking have anything to do with these facts? The instance may be duplicated in almost every community. Think over the families of your acquaintance in which the father has long been a moderate drinker, and observe the facts as to the health of the children. The superintendent of a hospital for children at Berne, Switzerland, has found by careful observation that only 45 per cent. of those whose parents used intoxicating liquors habitually had good constitutions, while 82 per cent. of the children of temperate parents had sound bodies. Of the children of inebriates only 6 per cent. were healthy. Can any man "drink and take the consequences," or must his children take the consequences?—*Quarterly Journal of Inebriety*.

Tincture Adonis Æstivalis, the New Anti-Fat Remedy.

R. Kessler further reports on his experience on his own person with tincture of adonis æstivalis as a reducer of corpulency. By taking 10 drops three times a day in lithia water for about a month—with certain interruptions made because, as the author states, he was losing flesh too rapidly—he has lost 25 pounds without experiencing any untoward effect whatever.

The experience of the president of the Tennessee Board of Pharmacy with this remedy is also adduced, and is in accordance with the author's: there has been a decided decrease in weight without any uncomfortable symptoms.—*A. M. S. Bull.*

Pathogenesis of Gout and Diabetes.

It is a well-known fact that in certain diseases, such as arthritis, diabetes, hæmophilia, and others, a hereditary tendency is well marked. According to Scherk, this is due to inherited affections of the glandular nerves of secretion. The symptoms of the disease, however, may not assert themselves till after many years, if, as in arthritis and diabetes, on account of the anomalies of secretion, an abnormal quantitative ratio of certain salts in the blood or modifications in the reaction of the medium happen to be present after a certain time. English authors have observed the connection of the two diseases inasmuch as they have called attention to the fact that certain members of one family may suffer from arthritis, others from diabetes. This shows that both are caused by a similar factor, being due to an abnormal function of the glandular nerves of secretion; the quantitative ratios of the salt combinations, which act as carriers of oxygen, will then be modified, the reaction of the medium has become faulty, and, as a consequence, the process of oxidation and reduction will be at a standstill.

It has been shown that in diabetes it is dangerous to narcotize a patient, the danger being probably due to the increase of oxygen. In the treatment of the two diseases, alkaline waters are of great importance, because the process of oxidation in the organism can go on much easier where there is an abundant alkali. Besides the well-known dietary measures, the attention is to be chiefly directed to increasing the amount of oxygen by exercise in fresh air.—*Aerzt. Rundschau*.

Why People Become Deaf.

It has taken the medical world a great many years to discover that loss of hearing is almost invariably caused by some disease of the throat or nose or both. But very recent researches in these fields have demonstrated this fact beyond question, and it is now admitted by the more advanced medical men that, aside from rupture of the ear-drum, there is scarcely a symptom of defective hearing which is not traceable directly to the condition of the nose and throat.

In view of the new discoveries, ear specialists are finding their occupation gone, save as they make their particular branch an assistant in further investigation. It is said, as we have already pointed out, that the use of smelling-salts is one of the most prolific causes of deafness, operating by weakening the olfactory nerves, and through them the auditory system. All strong or pungent odors should be avoided as far as possible, especially those which act upon the secretory processes and, as the popular expression goes, "make the nose run."—*Medical Brief*.

The Significance and Etiology of the Premature Discharge of Meconium.

E. Rossa (*Archiv. f. Gynak.*, Bd. 46, Heft 2) states that it is commonly believed that the escape of meconium before term is a sure sign that the foetus is in danger of asphyxia, and is therefore an indication for the hastening of delivery. The author's personal investigations have led him to doubt the correctness of this teaching. In a large number of cases the escape of meconium has no significance of the kind generally attached to it. The cause of the phenomenon is simply increased intestinal peristalsis, which may indeed be due to asphyxia, but may also be due to other less well-defined causes. Among these the principal are diseases of the mother, and particularly gastro-intestinal disorders.

Primary Cancer of Fallopian Tube.

Tuffier (*Ann. de Gynec. et d'Obstet.*) describes another example of this disease, only recognized within the last eight or ten years. The patient was aged 55. She had borne two children, the youngest when 25 years old. Menstruation began at 18 and ended at 51, in 1888. In May, 1892, metrorrhagia and hypogastric pains set in. As they continued she entered the Beaujon Hospital and was placed

in Anger's wards in July, 1892. The right iliac fossa was filled with a solid mass, which pushed the uterus forward and fixed it firmly against the symphysis. Retro-uterine hæmatocele, probably due to a new growth, was diagnosed, and abdominal section was performed on July 8, 1892. A mass of the size of a small foetal head was removed. It consisted of the right Fallopian tube. The uterus and left tube were normal, the left ovary sclero-cystic. The patient was examined five months later; no trace of recurrence or metastasis could be detected. The tube, pear-shaped, was found full of serum and clots. Its walls were thin and it contained a villous tumor. This growth was mounted on a pedicle a centimeter broad, attached to the walls somewhat inferiorly, and to the inner side of the middle of its course. At the point of attachment of the pedicle the tumor substance perforated the tube wall so that a tubercle as big as a pea projected on the outer surface of the tube. The villous mass was an epithelioma, allied to cylindroma; the stroma was very young connective tissue.

Labor and Pregnancy Complicated by Bright's Disease.

As a result of the careful study of numerous cases of labor and pregnancy complicated by Bright's disease, Dr. G. E. Herman, Obstetric Physician to the London Hospital, in a report to the London Obstetrical Society, summarizes as follows:

"There are at least two kinds of renal disease of which a pregnant woman may be the subject and to which pregnant women seem specially liable. One of these is a very acute disease, coming on either without any premonitory symptoms or with premonitory symptoms of very short duration—i.e., usually measurable by days. It attacks chiefly primigravidae. It often causes intra-uterine death of the child. It is attended with extreme diminution in the quantity of urine, and the small quantity of urine passed is greatly deficient in urea, but contains enough albumin to make it solid in boiling. This is the disease which is accompanied with rapidly recurring fits. If the disease runs a favorable course the fits cease, then the urine increases in amount and the percentage of urea in it rises. If the excretion of urea is not re-established the case quickly ends fatally. Such cases seldom if ever pass into chronic Bright's disease.

"The other is a disease which attacks older subjects, chiefly those who have had children before. Its premonitory symptoms are gradual and slow in the outset—i.e., usually measurable by weeks or months. It less often leads to intrauterine death of the child. It is generally accompanied with increase in quantity of urine, with copious loss of albumin, but not so much in proportion to the urine as in the more acute disease, and with diminution in the amount of urea, but not nearly so great a diminution as in the acute disease. In these patients delivery is followed by temporary increased diuresis and by in-

crease in the excretion of urea. When this increase is considerable the patient usually gets well and the albuminuria ceases. When the increase is only slight the albuminuria persists and the case becomes one of chronic Bright's disease. This form of disease is sometimes attended with fits, but generally not. The presence of albuminuric retinitis affects prognosis unfavorably. When the pressure within the abdomen is greater than usual the amount of urine may be diminished; but in such cases the diuresis and the augmented excretion of urea after delivery are proportionately greater. In the acute disease which causes eclampsia, and in the chronic disease when it is associated with excessive intra-abdominal pressure, much of the albumin is paraglobulin. The cases in which the albumin is mainly serum-albumin generally either die or pass into chronic Bright's disease."

The Dangers of the Long Rectal Tube.

The use of the long rectal tube in obstruction of the bowel has never been looked upon with favor by anatomists. Nothing is more difficult than the successful maneuvering of the rectal tube through the turns of the sigmoid flexure. The question of the value and safety of this tube having been asked of the *British Medical Journal*, the matter was referred to Mr. Harrison Cripps, who replied as follows: "Traditions die hard, and notwithstanding the condemnation of the long rectal tube by Brodie, Treves, and many other eminent authors, I still find that in most cases of obstruction the tube has been introduced. Fortunately, these tubes are fairly soft, so that in a capacious rectum, when they impinge and are arrested about opposite the promontory of the sacrum, they simply coil up and do no harm. If stiffer ones are used the patient's life is placed in imminent risk. A patient at St. Bartholomew's Hospital was to be operated on for ruptured perineum. In order to increase the supposed efficacy of the injection, a quart of soap and water, with some ounces of oil, were injected by means of a long tube. The injection never returned. A few hours afterward, owing to the acute symptoms of the patient, I assisted one of my colleagues in opening the abdomen. The soap and water and oil we found below a reduplicated fold in the upper part of the rectum. The patient died. The idea that these tubes can be generally passed into and beyond the sigmoid flexure is a pure delusion, save in the rarest circumstances. As a means of diagnosis, or of treating stricture beyond the reach of the finger, tubes of any kind are absolutely useless. If a stricture is actually present it would be 100 to 1 against the long tube or bougie entering it, for it would almost certainly catch in the cul-de-sac generally caused by the invagination of the stricture. If a stricture be not present, the arrest of the bougie by the sacral promontory leads to delusive diagnosis. Brodie, in his lectures, alludes to a case in which a worthy practitioner had spent over 150 hours in dilat-

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ing a supposed stricture situated high up. The treatment had extended over a period of a year. Brodie, who was present at the post-mortem examination, found there was no sign of a stricture, the bougie becoming arrested by a curve of the sacrum."

Copper Arsenite in Therapy.

A number of cases are described by Dr. A. Hedlicka in which he employed copper arsenite locally, with almost universal success in the various acute and sub-acute inflammations of the mucous membranes, attended with pain, suffusion, and more or less watery discharge. He found it most efficient in solutions of 1:50,000-100,000. These solutions are easily made by dissolving a 1-100 grain pellet in 1-2 ounces of water; they are applied at intervals rarely longer than an hour (bladder, urethra, and nose), and frequently not longer than from 10-15 minutes.

The remedy is rather indifferent in cases where the discharge is thick or persistent, unless the affected surface be previously thoroughly cleansed.

The duration of the treatment ranged from a few hours to two or three days in mild cases, from several days to three months in severe cases. The author pretends to have never failed; relief being nearly always instantaneous, no other remedies were needed.—*N. Y. Med. Jour.*

Treatment of Peripheral Neuritis.

Professor Leyden believes that in the case of neuritis following acute specific diseases, care during convalescence as to nourishment, rest in bed, and avoidance of over-exertion contribute to prevent its occurrence. "Etiological treatment" (removal of the cause) in neuritis due to alcohol or lead and treatment of the primary malady as in diabetes is of the first importance. There is no specific remedy for multiple neuritis, and treatment by drugs does not play a very important part. Owing to the fact that rheumatism is not infrequently an element in the etiology, salicylate of sodium and other anti-rheumatic drugs had been used, without producing any good results in the majority of cases. Iodide of potassium was of use only now and then, and mercury was of doubtful value. Antipyrin, phenacetin, exalgin, euphorbia, and methylene blue were sometimes of use for the relief of pain, but it was often necessary to resort to morphine, chloral, sulphonal, etc. Strychnine, formerly much used, but lately fallen into the background, deserved to be tried; by increasing the excitability of the affected muscles it favored the return to normal function and nutrition; it ought especially to be resorted to in progressive cases in which the respiratory movements were threatened. Leyden prefers to use it as a subcutaneous injection, gr. 1-70 to gr. 1-20 twice daily. Massage and baths were valuable auxiliaries which were indicated, especially the latter, in the later stages of the disease. General hygienic treatment was of

much importance. Rest—as a rule rest in bed—was of the first importance in the early stage; in the later stage, feeding. Finally, in the latest stages of all, moral suasion, rousing the patient's latent energies, was often of great value. Passive movements and encouraging the patient to make active movements were generally attended with better results than massage in this stage. Electricity, formerly used too much, was now used too little, but its usefulness was greatly limited by the fact that in many cases the pain caused was too great to permit the treatment to be continued.—*Berliner Klinische Wochenschrift.*

"Thyroidism," Graves' Disease, and Hysteria.

In a paper read before the Societe Medicale des Hopitaux, M. Beclere pointed out the relationship between "thyroidism," Graves' disease, and hysteria. He had recently treated a woman suffering from myxœdema with sheep's thyroid. She had, through a mistake at the outset of the treatment, taken as much as ninety-two grammes of thyroid gland within a period of eleven days. This excessive dose had been followed by symptoms now recognized as due to "thyroidism"—viz., tachycardia, irregularity of pulse, rise of temperature, insomnia, restlessness, polyuria, glycosuria, albuminuria, and incomplete paralysis, with sensation of heat and sweating. M. Beclere further noted an increased rate of respiration, transient tremor of arms, and exophthalmos. Hence arises the question whether these symptoms, which also characterize Basedow's (Graves') disease, may not be due in that affection to hypersecretion of the thyroid gland. It may be recalled that this was the question taken up by Professor Greenfield in his Bradshaw Lecture last year. Moreover, M. Beclere observed in the course of the treatment that the patient manifested some hysterical symptoms, such as transitory aphasia, monoplegia, and anaesthesia of the right arm; and he asks whether an excessive secretion of thyroid juice may not be one of the provocative agencies of hysteria.—*Lancet.*

Treatment of Precocious Malignant Syphilis.

Fournier (*Brit. Derm. Jour.*) states that the tertiary accidents of syphilis may be met with in any year of the existence of the syphilitic subject dating from the primary chancre. These accidents are most frequent in the course of the third year. Statistics indicate that even the second year is very prolific in tertiary phenomena; indeed, more than any except the third. Even in the first they are often met with, and these constitute syphilis maligna precoc. These lesions have special characters; so definite are they sometimes that at a glance the diagnosis of early malignant syphilis may be established. Thus the lesions ulcerate and spread rapidly; they are present in large numbers and disseminated; they necrose deeply and very markedly;

they are particularly rebellious to specific treatment, and are accompanied by a very bad condition of the general health. The local management consists in getting completely rid of pus and scabs, cleaning antiseptically with boric-acid baths, boric vaseline, or boric compresses. When thoroughly antiseptic the limbs should be surrounded with a wet dressing of boric alcohol, and on the superficial ones mercurial plaster, changed daily. Internally, if much prostration and anæmia, Fournier avoids mercury for the time and prescribes tonics. He gives quinine or small doses of iodine in extract of krameria. The food is regulated, milk given to drink, and the urine watched. Potassium iodide is administered. Fever and insomnia must be combated. Generally by this treatment alone strength is gained, fever disappears or lessens, and prostration is recovered from; indeed, the ulcers may heal in two or three weeks. When improvement is shown mercury may be tried cautiously.

Treatment of Delirium Tremens.

In the *New York Medical Journal* Belamy concludes an article as follows:

1. Delirium was controlled with greater rapidity and safety by trional than by other hypnotics.
2. In the majority of cases a marked stimulant effect was observed, possibly on account of the methyllic and ethylic elements which enter into the composition of the drug.
3. On account of the low temperature noted in all cases, trional must possess antipyretic properties, thereby simulating its allies of the phenol group.
4. It was always well borne by the stomach, and in one case was rapidly absorbed when administered per rectum.
5. No unpleasant after effects were observed, and in all cases recovery was speedy, with the exception of two.

Bicycle-Riding for Women.

After pointing out certain contraindications, the *New York Journal of Gynecology and Obstetrics* says, editorially: "But there are a certain number of women in this country, even among those long past puberty, who, hard as it is at times to realize it, have never had any pelvic disease whatsoever, and it will be in regard to these that we shall be called upon to answer the question: Is bicycle-riding beneficial for women? We are inclined to think that, under these circumstances, it is. The muscular action is much more regular than in horseback-riding, and the danger of accident, for a good rider, far less. For women past the menopause, with a tendency to excessive flesh, to torpidity of the liver, to constipation and to dyspepsia, it should be of especial benefit. But we fear that in this class of cases, in which it would appear to be most indicated, the power of feminine vanity will ever place a bar to our converting a probable theory into practical experience.

"At all events, there is no other form of exercise within the capacity of the average woman which involves so general a muscular development and glandular action combined with a healthy mental and physical exhilaration."

The Dangerous Anti-Vaccinationists.

One of the most striking testimonies to the mischief that a knot of anti-vaccinationists can do is shown in the experience of Stuttgart, the capital of Wurtemberg, between the years 1864-1869. Stuttgart was the local point from which radiated anti-vaccination influence, and, in consequence, not only many private citizens but the militia of that city were "unprotected." It had a population of 1,760,000 souls less than New York, yet in the five years indicated there were no less than 11,092 cases and 800 deaths. During that time there were 34 cases in the army of the whole country, but not a death; and now that vaccination and revaccination are not only compulsory, but done under a faithful inspection, the German army is the bright, conspicuous example, shining like a beacon, for all the world to follow. If Germany could build an impassable fence between herself and Russia, the whole country would soon show itself completely freed from the pest; but there is always an immigration from Russia into Germany of persons from that land, where the persistence of cholera shows the inability to cope with epidemics.—*Mrs. H. M. Plunkett in the Sanitarian.*

Scleroderma.

Eulenberg (*Wiener medizinische Wochenschrift*) cites several cases of this disease, one of which ran a fatal course in two years and began with symptoms of tabes. Later the diagnosis was trichinosis, due to the swelling of the eyelids and the muscles. Still later the diagnosis was polyneuritis. Errors in diagnosis are especially frequent when the disturbance begins in the proximal ends of the limbs. Then the characteristic signs of the disease, the tense pain, the paresthesia, the cold sensations, etc., are looked upon as signs of a nervous disturbance. In a fully developed diffuse scleroderma, of course, there can be no doubt of the diagnosis. In the beginning of the disease the marked stretching of the skin, the mask-like condition of the features, and the enlargement of the hands and feet are characteristic. The disease is rare, occurring between twenty and fifty-two years in the cases observed. The clinical symptoms are marked by disturbances of sensation. Sometimes there is motor disturbance, but this is seldom. There are many trophic disturbances, however. The face may become atrophied and spots of ulceration occur. In the small joints there may be enlargement of the ends of the bones. The excretion of sweat is sometimes but not always diminished. The general symptoms which occur in the most severe cases are loss of flesh and strength. There are no pathological lesions found in either the cord or the peripheral ganglia or nerves.

Apocynum Cannabinum in Heart Disease.

A. G. Glinski (*Vratch*), after having proved by experiments on cold-blooded and warm-blooded animals that the root of the apocynum cannabinum contains a strong poison which in large doses paralyzes the heart, and when given in small quantities retards and strengthens its beats, decided to take it himself, as he is suffering from hypertrophy of the left ventricle, with intercurent attacks of dilatation of the organ, mitral murmur, dyspnoea, etc. The dose was 15 drops of the fluid extract three times a day. As he found that all his symptoms disappeared in two days, he gave it also to other patients in the same quantity in cases of palpitation, disturbed compensation, in which strophanthus and adonis vernalis had failed and digitalis seemed contraindicated. He gives a full account of some of his cases, and summarizes his experience in the following conclusions:

1. The action of the root of apocynum cannabinum is similar to that of digitalis without being cumulative.
2. In cases of dilatation the fluid extract rapidly diminishes the area of dullness.
3. It increases the daily amount of urine, stops the palpitation, and promotes the absorption of transudations.
4. With the exception of increased pulsation of the arteries of the head, it has no bad secondary effects. It was used either in the form of a decoction (1 drachm to 8 ounces), three to four tablespoonfuls a day, or tincture (1 in 10), 5 to 10 minims three to four times daily, or fluid extract in doses of 10 minims to half a teaspoonful three times daily.

Night-Sweats—Treatment.

The July number of the *Brooklyn Medical Journal* contains a valuable report on the treatment of night-sweats of pulmonary tuberculosis. Only individual drugs were employed for the purpose named, and while many were subjected to the test during a period of five years of clinical experimentation, but eight proved successful to any practical degree. Among those having more or less therapeutical value were aromatic sulphuric acid, camphoric acid, chloralamid, muscarine, oxide of zinc, atropine, tincture of belladonna and agaricin.

The latter drug, according to the reporter, Dr. Henry Conklin, ranked first, and concerning it he comments as follows:

This was the most successful of all the drugs. It produced most excellent results in young subjects. Under its use the skin remained in a dry condition, without suspicion of any kind of cutaneous activity. It was very successful in cases where, during its use, the sweating had disappeared and had returned after the drug had been discontinued for a time. Repetition did not weaken its power. Of all the remedies, it acted best in the first few administrations. Subsequent ones sometimes failed. It can be used for any length of time and has no disadvantages.

Agaricin was given in pill form, gr. 1-12; one pill at bed-time, or a pill late in the afternoon and a second in four or five hours. This

remedy diminished the sweating in one-eighth of the administrations, stopped it in three-fourths, and failed in the remainder.

The Relief of Spasmodic Retention of Urine.

Excessive irritability is one form of interference of the higher centers; the other form is spasmodic retention. Thus when a man wishes to pass water he is anxious, especially if some one else is standing by and waiting, as in a public urinal, to make water in a hurry; the desire to make water quickly prevents him from passing it at all. This form can frequently be relieved by some such plan as that adopted by Boerhaave. He lived before taps were so common as now, and he used to have a screen in his consulting-room behind which was placed a tall footman. When he desired any of his patients to pass water, the footman, at a given signal from him, poured water from a water-bottle into a basin on the floor, so as to imitate the sound of a person passing water, and this at once had the desired effect. If in the out-patients' department you want to get a specimen of water quickly, in order to examine it, the best thing you can do is to turn on a tap, and if that is not sufficient leave the patient to himself and tell him there is no hurry whatever. As a rule, if there is more than two teaspoonfuls of water in the bladder, you are sure to get it by this plan. Sometimes, also, when there is no water running, if the patient only thinks of the sound of running water it will make the bladder act. The introduction into the uninals at railway stations of constantly running water has been of great service to many. Some passengers can now empty their bladder at a railway station who could not have done it before, although it does not occur to them that the constant running of water has anything to do with the evacuation of the bladder; it has, however, a great deal to do with it. Washing the hands with cold water is another help, as also the application of a cold wet sponge or hot water to the perineum; and making the patient sit down in a hot sitz-bath will frequently enable him to pass water into the bath when he could not do it otherwise.—*N. Y. Med. Times.*

SURGERY.**Abrasions of the Skin.**

Tinct. benzoin comp. is of especial value, according to Dr. J. L. G. Sherrill (*Amer. Therapist*), in abrasions of the skin, in conditions such as chapped hands, lips, fissured nipples, etc. It is also of service in eczema where there is a tendency to cracking. The peculiar benefit to be derived from its use in such conditions lies in the fact that after evaporation the gum forms a thin coating over the abraded surface, in this way protecting it from external influences and also from infection. The surgical use of compound tincture benzoin

should be more widely extended. In case of injury about the hand—whether it be slight incision in which suture would not be necessary, or whether it be excessive laceration and contusion, and especially injuries occurring in the use of machinery—he has found the application of compound tincture benzoin to be especially useful. The manner in which it should be used is as follows: After carefully cleansing the wound, removing all foreign substances, irrigating the wound with an antiseptic solution if there is any chance or indication of infection, and thoroughly checking all hemorrhage, a layer of surgical cotton is placed around the wound. If the injury is about the hand the fingers should, of course, be separated and kept apart by layers of cotton. After cotton is applied the compound tincture benzoin is poured down next the surface of the wound, saturating the cotton immediately surrounding the injured tissues. This drug, after undergoing evaporation, will form a coating with the cotton which will hermetically seal the part, thereby rendering it perfectly aseptic. Benzoin in itself is an antiseptic, although of inconsiderable strength. There will be some slight smarting upon the application of this tincture, which, however, will not seriously inconvenience the patient, and which is due entirely to the fact that it is carried by an alcoholic medium.

New Operation for Removal of Enlarged Cervical Glands.

Dollinger (*Centralbl. f. Chir.*) describes an operation for the subcutaneous extirpation of tuberculous lymph glands in the neck and submaxillary region. The posterior half of the scalp having been shaved and the whole of the scalp and the skin of the affected side of the neck carefully disinfected, an incision is made commencing behind the external ear and carried in a curved line with the convexity backward and downward toward the middle line of the neck behind. The skin and superficial fascia are divided, and the anterior and lower flap is undermined by finger and elevator until the enlarged glands are reached; these, if they have not broken down or contracted firm adhesions with surrounding soft parts, may now be readily detached by the elevator and drawn through the wound. The skin forming the lower flap is so yielding, especially in women and children, that it is possible by this operation, the author asserts, to reach glands situated near the chin, and even those in the supraclavicular region. The wound, when made under strict antiseptic precautions, heals quickly, and the scar is hidden by the new growth of hair.

Saline Fluid Subcutaneously in Collapse.

Dr. Harold Williams reports in the *Boston Medical and Surgical Journal* a case of recovery from profound collapse in cholera morbus by the subcutaneous injection of saline fluid. The case had the usual history. Everything else failing, it was decided to try the salt solution subcutaneously.

For this purpose a reversed aspirator was used, and a quart of the solution, containing fifteen grains sodii bicarbonatis and half a

drachm of sodii chloridi at 105°, was slowly injected beneath the skin of the abdomen. The injection of this fluid was followed by immediate improvement. The radial pulse became distinctly evident; the respirations became more rapid and full; the surface of the body warmer. From this time there was progressive improvement, and the patient recovered.

A New Method of Shortening the Tendon of the Achilles.

Phocas objects to Willet's method ("St. Barth. Hosp. Rep.," 1886) of excising a portion of the tendon for this purpose, and also to Gibney's, in which the tendon is divided, no portion being excised (*Rev. d'Orthop.*, 1880, pp. 217 and 244).

In both of these methods the sutures include the skin with the tendon. The author contends that it is not sensible to divide, much less resect, a tendon which it is proposed to strengthen, and considers it a forlorn hope to attempt to make the cicatrix perform the function of the tendon. He proposes the following method, and reports a case, but one too recent to be considered a cure.

A median incision five or six centimeters long is made over the tendon, the sheath opened and the tendon carefully denuded. It is then transfixed laterally at the upper end of the wound by a bistoury which is carried down the middle of the tendon by a sawing motion. The posterior flap is cut away above and below. The anterior part of the tendon is thin enough to be folded on itself, and this is now done, the freshened surfaces together, thus shortening it one-half the length of the incision, and the fold stitched together with catgut. The sheath is closed, and the skin also, separately. The foot is then put up in equinus in a fixed dressing.—*Rev. d'Orthop.*

Alcohol in Shock.

Dr. Wood is authority for the statement that "alcohol is probably of no value whatever in shock. Indeed, I am perfectly sure that a large dose of alcohol in shock puts one nail in the coffin of the patient, and if you want your patients to come out of shock you will be very careful in giving them alcohol. Alcohol stimulates the heart but paralyzes rather than stimulates blood-vessels." The theory is, "by its action on the blood-cells it checks oxidation and limits the power of absorbing oxygen and eliminating carboic-acid gas."—*Omaha Clinic.*

Laminectomy.

Inasmuch as considerable has been written of late touching the operation of laminectomy, and as there is still no reasonable uniformity of opinion, the conclusions of Dr. A. Parkin, surgeon to the Victoria Hospital, Hull, England, based upon six recent cases, may well be put forth:

1. That extension and counter-extension of the spine, however carefully applied, has little or no effect on cases of paraplegia.
2. That, as a rule, laminectomy has an immediate effect on the paralysis when due to

caries of the spine, and that most cases so treated recover entirely from their paralytic symptoms.

3. If the tuberculous focus can be eradicated from the vertebræ there is every prospect of the result being permanent, otherwise relapses may take place, or further tuberculous disease elsewhere.

4. It is possible by means of laminectomy to considerably improve cases of severe deformity from spinal disease.

5. That advanced cases of spinal caries, in which it is probable that a caseous mass exists, may be greatly benefited by laminectomy and the direct treatment of the diseased focus.

6. That the operation itself is not a difficult one, unless there is grave respiratory trouble. It does not interfere with the future stability or mobility of the spinal column; the disease for which such operation is performed may, however, do so.—*Brit. Med. Jour.*

Treatment of Tuberculous Peritonitis.

Guignabert describes a method he employs in the treatment of tuberculous ascites which was first suggested by Rendu. It is most applicable to this particular form of peritonitis. It consists in introducing a fine trocar and canula through the abdominal wall, midway between the umbilicus and anterior superior iliac spine. While the flow is diminishing, a hypodermic syringe is five times charged with camphorated naphthol, and the contents are passed into the abdomen, the canula being made use of for the purpose. The puncture is subsequently closed by means of aseptic wool and gauze. Hereafter the peristaltic action of the intestine serves to distribute the naphthol, which produces insignificant pain for only a few hours. Furthermore, during the first few days the temperature shows an evening rise and the ascites apparently increases, though the fluid subsequently disappears. Ultimately masses of adhesion will be felt, and these gradually diminish. During the operation the strictest antisepsis is required.—*Boston Medical and Surgical Journal.*

DIETETICS.

A New Method of Making Palatable and Digestible Milk.

Dr. Robert T. Edes, of Boston, gives a valuable way of preparing milk where other methods have not proved useful:

A pint of milk is gently warmed. Into it is dropped, very slowly and with constant stirring, about twenty minims of the dilute hydrochloric acid of the United States Pharmacopœia. The milk should be stirred until it cools. In this way a very fine flocculent coagulum is produced, floating in the whey, which is easily accessible to the digestive secretions, while the whole fluid has lost somewhat of the flat and cloying taste which makes it unacceptable to so many. It will be

noticed that milk prepared in this way differs from the various "wheys" in the highly important particular that the casein is retained and used, instead of being separated out as a distinct product, while it avoids the bitterness of pancreatinized milk.—*Boston Med. and Surg. Jour.*

DISEASES OF THE NOSE.

The Treatment of Deviation of the Nasal Septum.

The septum may be forced into position without the employment of cutting or lacerating instruments (efficacious mainly when the deviation is confined to the cartilaginous portion of the septum), or prominent portions of the septum may be first removed with a suitable instrument, or the septum may be incised with a knife, or straightened by the employment of pins or by fracturing the septum with comminuting forceps. The writer gives an interesting summing up of the instruments and measures used by different writers for this affection, and describes his own forceps for fracturing the septum. Operation is demanded where there is nasal stenosis or where there is pressure between the deflected portion and other parts of the nasal passage. The first step is to place the septum and turbinated bodies on the concave side of the septum in a normal condition. The septum is to be reduced as far as possible to normal thickness. In the majority of cases incisions with a bistoury on the convex side are necessary before using the redressing forceps. Wounding the mucous membrane on the concave side should be avoided. In many cases a twenty per cent. solution of cocaine will be sufficient to render the operation painless, especially with the use of a little chloroform just at the time of fracturing. The septum is held in position by a plug (made by wrapping wool or cotton around a small metal plate) in the previously obstructed nostril. Before and after the operation the nose is cleansed with a saline solution of 1 to 5,000 bichloride of mercury. The dressing may be left *in situ* four or five days before changing.—*John O. Roe in New York Med. Jour.*

DISEASES OF THE EYE.

Reflex Cough Due to Ear Disease.

Lavrand calls attention to the fact that in many patients affected with ear disease a blunt hook, curette, or speculum, when introduced into the internal auditory meatus, provokes cough, which disappears when the instrument is withdrawn. He has obtained this reflex in twenty-one per cent. of all the patients that he has examined. He states that at times, from disease of the auditory canal, the cough occasionally becomes very distressing and persistent. He cites a case reported by Percy Jakins in which there were all the signs of beginning tuberculosis, such

as cough, exhaustion, night-sweats, occasional delirium, and mucous rales throughout the chest. Both meatuses were plugged up with accumulations of wax, and when these were removed the pulmonary symptoms abated. The reflex cough is explained by the anatomical fact that the auricular branch of the pneumogastric has its origin in the jugular ganglion, or is given off from the trunk of the pneumogastric immediately below that situation, and proceeds by way of the jugular fossa and the Fallopian canal to the posterior part of the external auditory canal. Observation has shown that this cough is produced only by irritation of the postero-inferior wall of the canal near the tympanum, and the reason that all do not suffer with auricular reflex cough when disease is present may be in part due to an anomaly of innervation in that particular individual. The author finds no relation existing between the more or less nervous condition of the patient and the occurrence of this reflex. The cough which is produced has no distinct characteristics: sometimes it is paroxysmal, resembling that of whooping-cough; sometimes explosive, short, harsh, and barking, and, unless there is catarrh of the passages, it is not accompanied by expectoration.—*Journal des Sciences medicales de Lille.*

PATHOLOGY.

Inoculability of Carcinoma into Healthy Parts of the Bodies of Cancer Patients.

Two cases are reported, of which the second is of especial interest. The first case was one of carcinoma of the vagina, which had developed upon that point where the vaginal wall was in contact with the cancerous ulcer of the portio. But the other case, carcinomatosis of the peritoneum, developed subsequent to an ovariectomy. Small cancer nodules occurred in almost all of the suture wounds of the abdominal incision, while the incision itself remained unaffected. The theory of "inoculation recidive," which has been so thoroughly considered by Winter, appears to have received additional support.—*Dr. Sippel in Cent. f. Gynæc.*

ARMY AND NAVY.

CHANGES IN THE U. S. ARMY FROM NOVEMBER 11, 1894, TO NOVEMBER 17, 1894.

By direction of the Secretary of War, the leave of absence granted First Lieut. Francis A. Winter, Assistant Surgeon, in S. O. 71, July 25, 1894, Department of Texas, is extended one month.

By direction of the Secretary of War, the leave of absence granted Captain Eugene L. Swift, Assistant Surgeon, in S. O. 147, October 11, 1894, Department of Dakota, is extended one month.

Leave of absence for one month is granted Captain Benjamin L. Ten Eyck, Assistant Surgeon.

CHANGES IN THE U. S. MARINE HOSPITAL SERVICE FOR THE TEN DAYS ENDING NOVEMBER 15, 1894.

Austin, H. W., Surgeon; to proceed to Boston, Mass., and assume command of service, November 10, 1894.

Irwin, Fairfax, Surgeon; to assume charge of Quarantine Division of the Bureau, November 14, 1894.

McIntosh, W. P., P. A. Surgeon; granted leave of absence for fourteen days, November 9, 1894.

Young, G. B., P. A. Surgeon; granted leave of absence for seven days, November 8, 1894.

Prochazka, Emil, Assistant Surgeon; granted leave of absence for thirty days, November 14, 1894.

NEWS AND MISCELLANY.

Routes and Rates to Winter Resorts.

The B. & O. R. R. Co. has just issued a little booklet giving the routes and rates to various winter resorts in Cuba, Florida, North Carolina, Virginia, New Jersey, Pennsylvania and Georgia. The information is very conveniently arranged and indexed. Copies can be had by inclosing a two-cent stamp to Chas. O. Scull, Gen'l Pass. Agent B & O. R. R., Baltimore, Md.—2t